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## DIESEL RAILWAY TRACTION

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THE RAILWAY GAZETTE  
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## Coal Board Experience and Transport

THE experience of the National Coal Board does not augur well for the success of nationalised transport. Expectations of the loss which will be incurred by that Board for the first year range up to £20 millions, or twice that of the nationalised British air lines deficits. According to the *Sunday Express*, the Coal Board is planning to decentralise so as to secure greater efficiency, and to this end it is proposed that each of the eight regions will be directed by a General Manager, personally responsible for the success of his area. The British Transport Commission has emphasised its intention to avoid undue centralisation, but so far the tendency appears to have been almost wholly in that direction. If the time comes when something similar to the old Geddes' axe is wielded, a cynic suggests that it might be possible to lop off the Railway Executive as a whole. This would leave the Chief Regional Officers responsible directly to the Transport Commission. It would help to avoid centralisation, might lead to some return of healthy rivalry between the Regions, and would give the Chief Regional Officers a status and responsibility now somewhat ill-defined.

\* \* \* \*

## Government Policy and Transport Wages

An indication of the railway trade union view on wages and the place which they should occupy in a nationalised transport system is given in the last issue of the *Railway Review*, the organ of the National Union of Railwaymen. It points out that ever since the 1914-18 war, the trade unions have been fighting for increased wages to meet the rising cost of living, but wages have never caught prices. Now that the transport system is nationally owned, the *Railway Review* declares, wages must become the first charge on earnings, and those employed in it "must be given the best conditions of service, irrespective of any question of the capacity of the industry to pay." This declaration seems to be in striking contrast with ministerial statements of policy during the passage of the Transport Bill through Parliament. It lends point, however, to a statement in a recent issue of Mr. Stephen King-Hall's *National Newsletter* that some Ministers feel that it is imperative that a halt should be called to demands for wage increases. He adds that sooner or later there will have to be a showdown in this matter, and it is important for the welfare of the nation that it should be decisive. Mr. King-Hall says he has "some reasons for thinking that it may come in the world of Transport."

\* \* \* \*

## Increased Steel Prices

A further increase in iron and steel prices came into effect on January 28. In most cases the advances in themselves are not large; they range from 5s. a ton for billets, blooms, and slabs to 7s. 6d. a ton for wire products, but they cover most iron and steel products and are a consequence of the advance in the cost of coal. The last previous advance in steel prices occurred at the beginning of October, and were also the result of higher costs of fuel, together with the upward adjustment in railway rates at that time. Coal prices were further advanced from December 31 by 2s. 6d. a ton, and as about two tons of coal are required for every ton of finished steel produced, the scale of the rises in steel products is not likely to take care of more than the extra coal costs. The industry is relying on maintenance of the current higher rate of production to enable it to carry other recent additions to its costs, including the rise in the price of heavy oils which came into effect at the beginning of last September. Compared with 1938, steel prices are higher by between 60 and 70 per cent., whereas the rise in coal prices and in industrial materials and manufactures since 1938 has been about 118 per cent.

\* \* \* \*

## Machine Tool Replacements

Machine tool manufacturers in the Midlands are apprehensive of the consequence of exporting too large a proportion of machine tools in relation to those available for the home market. A special correspondent of *The Times*, who has recently visited a number of factories, has stated that one of the most serious problems which may soon confront British industry is the waning productive efficiency of the tools, especially in comparison with competition from overseas manufacturers. The machine tool industry suffers from the fact

that its products are little known to any but those who use them, and its highly important place in the national economy is but little realised by the public. In the export programme the machine tool industry is to fill a dual role. It is to export machines as immediate earners of foreign currency, and it has a longer-term part to play by enabling all industry to export more goods at lower cost through more efficient tools in the factories. It is estimated that the machine tool industry at present is producing at the rate of £25 million worth of goods a year, and of this value at least £15 million must be exported. Mr. J. W. Morgan, Secretary of the Machine Tools Trades Association, has put the annual value of machine tools needs for home industry and replacement at not less than £30 million.

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### Overseas Railway Traffics

The Buenos Ayres Western experienced a decline of ps. 111,000 in traffics for the week ended January 24, resulting in a loss of ps. 17,000 on the fortnight compared with the preceding year. On the other principal lines an increase was shown in both weeks, although on a reduced scale in the second seven days. Buenos Ayres Great Southern receipts, for example, falling to ps. 6,000 ahead of the previous year in the week ended January 24, whereas in the preceding period a gain of ps. 591,000 was recorded. After a weaker beginning to the year, G.W. of Brazil traffics gained £3,600 in the week ended January 24, which put them within £700 of the results for the first three and a half weeks of 1947 (actually the comparison is between 3 weeks 3 days in the current year and 3 weeks 4 days a year ago). Some traffic figures are tabulated below:—

	No. of week	Weekly traffics	Inc. or dec.	Aggregate traffics	Inc. or dec.
Buenos Ayres & Pacific*	30	3,150	+614	78,341	+11,599
Buenos Ayres Great Southern*	30	4,967	-6	107,728	+4,180
Buenos Ayres Western*	30	1,580	-111	42,816	+4,903
Central Argentine*	30	4,003	+502	102,306	+7,161
Canadian Pacific	52	7,151,250	+914,250	79,646,500	+6,522,500

\* Traffic returns in thousands of pesos

Net earnings of the Canadian Pacific Railway for the 52 weeks to December 31 totalled £5,723,000, an increase of £512,250. For the month of December the net earnings were £200,750.

\* \* \* \*

### The Minister and Transport Information

Quite forty years ago we remember a staunch Conservative saying that the one consideration that made him favour railway nationalisation was that, as in the case of the Post Office, one would be able to ask questions in Parliament regarding bad railway working. It appears, however, that our Conservative friend was quite wrong. In the House of Commons on February 2 several questions were asked relating to railways, but in each case the Minister replied that the matter raised was one for the British Transport Commission, and all he would undertake was to bring the question to the attention of that body. A number of Members expressed their dissatisfaction somewhat heatedly, and several said they would raise their questions again and seek a debate on the adjournment at the earliest opportunity. The Minister's point that he could not exercise his position to influence day-to-day management decisions of the Commission has some validity, but if every question relating to the Commission or the Executives is to be turned aside in this way, there will be good grounds for complaints, which will speedily arise, that our latest bureaucracy is operated under a blackout.

\* \* \* \*

### Permanent Way Institution (London Section) Dinner

Although the austerity regulations have made it impossible for the Permanent Way Institution to arrange its usual annual dinner, the London Section was able to hold its own dinner, at which the number of tickets issued was limited to 100, at the Grosvenor Hotel, Victoria Station, on January 28. The organisers of this successful function are to be congratulated, not only because the social activities of the Institution have been maintained, but because the earliest opportunity was taken to extend hospitality to members of the British Transport Commission, and the Railway and London Transport Executives. More than one of the distinguished guests expressed apprecia-

tion of the continued growth of the Institution and its work of bringing together the indoor and outdoor staffs of the permanent way department. This augurs well for the establishment of cordial relations between the Commission and its Executives and one of the most important branches of the railway service, and encourages the belief that those at the head of the new organisation of our railways will seek to maintain the closest possible contact with the engineers and their staffs. The after-dinner speeches are summarised elsewhere in this issue.

\* \* \* \*

### Some Aspects of Co-ordination in Transport

Official statements of the benefits to be expected from nationalisation refer frequently to the creation of a co-ordinated and integrated transport system. Among those who are not experts in transport matters, the impression may well be created that hitherto schemes of co-ordinated working have been lacking. In our opinion this is by no means true of railway transport, and is demonstrated amply in a paper read recently to the Midland Section of the Institute of Transport by Mr. S. G. Hearn, which is reported in summary form on another page this week. A striking example of inter-system collaboration which he quoted was the daily telephone conference which used to take place, and indeed, we would assume, continues today, between the six Regions to discuss the through transit of goods traffic and the spreading of the load between companies when exceptional density prevailed. Other instances of co-operation, coming outside the limits of the paper, have occurred on many occasions, and the fact of being regarded as normal by the railways deprived them of the publicity they otherwise might have had. One which occurs to mind is a fire in a signal box at Paddington in 1938, on which occasion a complete lever frame was loaned to the G.W.R. at short notice by the London Passenger Transport Board.

\* \* \* \*

### Achievements of the Inland Transport Committee

Disillusionment arising from the failure to reach any real agreement at so many international conferences may call into question their value in settling international affairs, and it is noteworthy, therefore, that considerable understanding and agreement were reached at the first two sessions of the I.L.O. Inland Transport Committee. In his paper to the Southern Region Lecture & Debating Society on January 15, Mr. Frank Gilbert stressed the importance of the exchange of views and opinions at these sessions, and pointed out that the Inland Transport Committee had been a most useful medium for establishing contact with transport interests in other countries, and particularly those within the British Commonwealth. It had provided opportunities for learning something of their problems and the solutions they have evolved. Mr. Gilbert noted that I.L.O. was a specialised agency though, and as such, was intended to deal with social, rather than economic problems; the labour and economic spheres often did overlap, but to succeed, the Industrial Committees would have to avoid encroaching on the economic field. This factor, however, does not detract from the importance of their work, and Mr. Gilbert gave assurance that by reaching such a wide measure of agreement, the second session of the Inland Transport Committee had made a noteworthy contribution towards international co-operation, and in the sad state in which the countries of the world found themselves today, that surely was worth while.

\* \* \* \*

### A Livery for British Railways

There has been much speculation concerning the livery to be adopted for British Railways, and it has been suggested that Post Office red would be appropriate for a nationalised system. However, this colour was not in evidence at the exhibition of locomotives held at Kensington (Olympia) Station on January 30, to enable members of the British Transport Commission and the Railway Executive to review several possible liveries before a final decision is made. The steam locomotives displayed were of standard design and were turned out in colours ranging from a plain black to various shades of green, reminiscent of those adopted by the former companies. Lining out, although effective, was of a simple kind. A notable departure

was made in the case of the Southern Region electric locomotive, which was finished in a light blue. The exhibition also included examples of liveries for coaching stock, among which were a variation of the former G.W.R. colours, but with a preponderance of red in the chocolate, a crimson lake which recalled the pre-grouping Midland Railway, and an electric multiple-unit set in standard Southern Region malachite green, prominently lettered "British Railways."

\* \* \* \*

#### Interlocked Block on Single Lines

At a recent meeting of the Institution of Railway Signal Engineers the question arose as to why little use had been made in this country of non-token methods of working single lines. The general opinion seemed to be that the simplicity of the token systems, the fact that the driver had proof that he had the right to be on the line, and the ease with which intermediate sidings could be controlled, had exerted a strong influence on development. For many years official requirements precluded anything else being adopted on new lines, but occasionally on engine and goods roads, such as the Edinburgh Lothian lines, this was done, and for the Cairn Valley Light Railway these rules apparently were specially relaxed. The Board of Trade had practically no power to interfere with an existing line until the Act of 1889. This, however, only enforced the adoption of the block system, so that apparatus already in existence which ensured the space interval being observed remained unaffected. In this way non-token working through certain G.W.R. tunnels could continue in service and is still in operation. The use of one-man drive on diesel engines and cars recently has led to a revival of interest in operating single lines by signal indication only.

\* \* \* \*

#### Failure of the Green Light

Another question referred to the advisability of switching on the yellow light on a multiple-aspect signal on failure of the green, and provoked much discussion. It is part of the wider question of to what extent one is justified in providing against possible failures, which might result in dark signals. Opinions vary considerably on the point. In some countries, for instance, a reserve red unit is provided, it being felt that on no account should the danger indication be permitted to fail altogether. Auxiliary yellow units are frequently provided in colour-light distant signals in this country, because of the great importance of the warning aspect and the consequences that may result from failure to find it showing. The rule says, it is true, that the absence of a light is to be taken in the most restrictive sense, but its value depends on the driver perceiving where he is and, in fact, locating the dark signal. Some speakers dwelt strongly on the need for giving him the utmost help in locating his position and supported the idea that failure even of a clear signal ought to bring in some other light, in an effort to do that.

\* \* \* \*

#### New 2-8-2 Locomotives for Tanganyika

The new 2-8-2 locomotives with eight-wheel tenders recently built by W. G. Bagnall Limited, and shipped to Dar-es-Salaam for service on the Tanganyika Railway, have several features of technical interest. They are among the largest of all metre-gauge locomotives; the combined weight of engine and tender in working order is over 98 tons. With the foreshadowed conversion of the Tanganyika Railway's gauge from 1 metre to 3 ft. 6 in., several ingenious devices were incorporated in the design, so that the alteration of the locomotives could be effected with a minimum of work. The most striking of these is the design of tyres and wheel centres, which are so arranged that the conversion will permit the axles to remain in position, only the fitting of new tyres, together with machining of the original wheel centres, being necessary. Brake gear alterations likewise are reduced to an absolute minimum. Arrangements also have been made to permit the fitting of the standard South African Railways coupler when necessary. The general design of the locomotive, which is described elsewhere in this issue, is remarkably straightforward. Copper is chosen for the material for the inner firebox, and the moderate boiler pressure of 180 lb. per sq. in. should give low boiler maintenance costs.

#### Sir Frederick Heaton on Rail and Road Co-ordination

THE annual general meeting of Thomas Tilling Limited for some years has been marked by the interest of the speech made by the Chairman, Sir Frederick Heaton, who is an outstanding personality in the road passenger industry. As has been previously announced, Thomas Tilling Limited is in negotiation with the British Transport Commission for the acquisition of a substantial proportion of the business under the terms of the Transport Act, 1947.

Tillings was among the pioneers in bus operation in the provinces, as it had been in London during the latter half of the 19th century. The group of bus companies with which it is now concerned has been built up almost entirely over the past 30 years. These companies have been progressing largely by reason of the fact that facilities offered to the public were cheap and attractive. As Sir Frederick Heaton pointed out, during all these years there have been very few alterations in the general level of fares; indeed, there has not been a general increase since the Road Traffic Act was passed over 17 years ago.

Tillings holding in the capital of these companies was much reduced by the sale to the main-line railway companies in 1929, but although they then acquired a very substantial interest Tillings have throughout the years carried on the management and development of the whole group. The close working arrangements with the railways to which many looked forward at the time never materialised to any appreciable extent, and Sir Frederick Heaton said on another occasion that the interest they acquired proved to be merely a good investment.

In his recent statement he added that there appeared to be a feeling in some quarters that through developments which might arise before the Act was fully implemented, the area road transport schemes, for which provision is made in the Act, might not be proceeded with and that bus companies would be allowed to remain independent. It was clear to him, however, that without the co-ordination of public transport between road and rail, or as an alternative a big annual State subsidy, the railways could not have continued for long to function satisfactorily. Moreover, it would not have been possible for them to raise on reasonable terms the large amount of additional capital which would have to be expended as soon as circumstances allowed.

On the passenger side, railway fares have been increased on many occasions during the past 30 years. Many would remember the time when the ordinary third class fare was a 1d. per mile, but it was now approximately 2½d.; against this, bus fares have remained largely unaltered except in London and in certain other urban centres, and the result has been a constant diversion of traffic from rail to road, which still continues. It should also be remembered that in spite of the higher charges the railways have found it difficult to make both ends meet, whilst those operating bus services have enjoyed a fair degree of prosperity and, at the same time, a measure of security similar to that afforded to public utility companies.

He emphasised that his remarks were not intended in any way as a criticism of the railways. Railway management had been advancing all the time, and great improvements had been effected in many directions, both on the passenger and the goods side, but the internal-combustion engine had a tremendous inherent advantage over the steam engine in that it required no special track nor lines on which to operate. At the same time railways were clearly essential, particularly in a country such as this, with its big population and the heavy volume of traffic which has to be carried.

In his view, having regard to all the circumstances, no Government would attempt to divert the course which the Act was intended to establish—namely, that of complete unification and, therefore, he felt sure, shareholders of Thomas Tilling Limited would agree that their directors were justified in entering into the negotiations with the British Transport Commission.

In our view, which we have expressed on several occasions especially in recent years, one effective way of enabling equality of costs between rail and road to be reached would be for

all road users including "C" licence holders and private cars to pay a form of toll for the use of the roads. This would have to cover interest on the cost of the purchase of the roads, their maintenance, lighting, signalling, policing, and so forth.

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### Transport Tribunal Stock Valuation

THE Transport Arbitration Tribunal which was set up under the Transport Act, 1947, to value for compensation purposes securities whose value was not fixed by direct Stock Exchange quotations, met in London for the first time on January 28. It then dealt with four canal securities submitted by the Transport Commission for valuation. These were the 4 per cent. perpetual debenture of the Birmingham Canal (suggested value £105); 3 per cent. debenture (£85), ordinary shares, fully paid (£5 10s.), and ordinary shares, £4 paid (£5 10s. per cent.) of Sheffield & South Yorks Navigation. In all four cases the value suggested by the Commission was agreed by the majority of holders. The decisions by the Tribunal were made known on January 30, when a statement was issued giving the values of the stocks in respect of which the Tribunal had issued orders. These values were in each case those proposed by the Commission and given above.

On February 11, the case for the valuation of the L.N.E.R. West Hartlepool "primary charges," Hartlepool & Clarence class "C" preference shares will be heard, and later this month that for the Leeds & Liverpool Canal 3½ per cent. preference stock.

It is understood that no further hearings are likely by the Tribunal for at least a month, as the Commission does not expect them to be ready for presentation for that time, but from then onwards it is believed that there will be a steady series of applications to the Tribunal until the whole of the 81 securities whose value is to be fixed have been valued.

The submissions for valuation, it was pointed out at the hearing, were made on the basis of the most nearly comparable quoted securities, and Mr. C. Montgomery White, K.C., Chairman of the Tribunal, said at the end of the hearing that it appeared that the Tribunal was to regard quoted and unquoted securities which were strictly comparable as being of the same value, even if the unquoted security had a very limited number of dealings. For the Commission, it was argued that there was no common formula for it to set a value on these securities. Although it was laid down in the Act that regard must be had to the fixed values of comparable securities, comparable was a qualified expression, and it was a matter of degree in every case. The Commission felt that each security had to be regarded according to its own peculiarities, and the value set on one by the Commission could have no particular bearing on the value to be set on others at a later date.

\* \* \* \*

### Argentine Railway Sale Negotiations

THE long drawn out negotiations for the ratification of the sale of the British-owned Argentine railways to the Argentine State at the end of last week appeared once more to have come to an impasse. It is nearly a year since it was announced that the global sale price of £150 million would be divided among the companies on the basis of the recognised capital of each; that the value of London and certain other assets excluded from the sale was not included in that figure.

Since then negotiations have been continued intermittently between the Argentine authorities and representatives of Great Britain and of the railway companies on the financing of the transfer. Unfortunately, it has not proved possible to disentangle the railway negotiations from the more general problem of the balance of payments between the two countries, and latterly the negotiations have centred largely on meat shipments from Argentina to Great Britain, and the prices which are to be paid. It is because of inability to reach agreement on this subject that fears of a breakdown in the Anglo-Argentine trade negotiations have been aroused recently and with apprehension as to when it will prove possible to effect the agreed payments to the British stockholders of the Argentine railway companies.

After the suspension of talks last week, they were resumed on Monday, and hopes were reported that agreement on the meat negotiations might be reached. It was stated that the United States of America had made known to Argentina its

interest in the outcome of the talks, which it considered involved in measures being taken to aid European recovery.

At the present time, under the agreement which, subject to ratification, was signed between the companies and the Argentine Government in February last year, the railways are operating for the account of the Argentine Government. It is known, however, that they are not doing so on an economic basis; that costs have outstripped receipts, and that the financial position of the lines is even more parlous than it was before the agreement was reached.

Until ratification of the deal, it is impossible for any steps to be taken for rehabilitating the railways, or to put in hand many urgently needed works without which the efficiency of the systems must undergo further deterioration. From the viewpoint of the Argentine State itself, the delay which has occurred in ratification must have unfortunate consequences on the efficiency of the railway systems when they are completely owned by the State. The longer the problem of making good the accumulated deficiencies in rolling stock and equipment generally are deferred, the greater will be the difficulties facing the new administration.

\* \* \* \*

### How the Railway Executive will Function

WHEN Mr. J. C. L. Train, formerly Chief Engineer, L.N.E.R., and now a full-time member of the Railway Executive, addressed the Permanent Way Institution on Saturday last, he took as his subject "The Railways Under Nationalisation." A brief reference to the general meeting of the Permanent Way Institution is made elsewhere in this issue, but because of the interest attaching to Mr. Train's address, and the limitations on our space in present circumstances, we give below, without comment, a summary of Mr. Train's remarks. This is the first occasion on which a member of the Executive has dealt in any detail with the manner in which that body should carry out its functions, and for this reason we feel that it will interest many of our readers.

Mr. Train said that in the main the British Transport Commission controlled finance, and the Railway Executive, as a body, could be likened more to a super General Manager with very considerable powers delegated to it in the way of authorising salaries, works and so forth, so that up to a point the Executive really undertook much of the work of the previous railway directors as well as management.

He described the principles which the Executive had in mind in recommending the new organisation to the British Transport Commission. The organisation consisting of the Executive and Regions was unique in that the members of the Executive had a dual function. They had to meet as a body and make decisions, or make recommendations to the British Transport Commission, according to the magnitude of the problem in hand, and they were responsible as a body for such decisions or for recommendations put forward. When widely varied questions were adopted, one member who was expert in any one of the subjects probably would help the discussion by submitting a memorandum for the assistance of the Executive as a whole, but each member of the Executive was expected to study the subject in hand, and to give the Executive the benefits of his comments, even if the subject was one he would not previously have dealt with direct in his former field of activity in the railway service. Then again the Executive as a body would hold regular meetings with the Chief Regional Officers when misunderstandings could be cleared up, suggestions made to improve the organisation, and major problems confronting any particular Region could be discussed.

A Chief Regional Officer had been appointed in charge of each Region, and it was not strictly correct to compare him with what have hitherto been known as General Managers, or Chief General Managers, because in some respects he had more power and in others less. In common with a General Manager, he had under his control heads of departments, and he was responsible for co-ordinating the work of all the departments under him in the Region, and for day-to-day working of the railway. His responsibilities and those of the departmental heads under him were considerable, for the size of the Executive headquarters had had to be kept down, and the principle employed in adopting the new organisation was that as much work as possible must be kept away from the Executive.

Because the members of the Executive also were functional,

they had a right to go to the heads of those departments whose interests they were responsible for watching. This was necessary for the purpose of unification, for it would not be in the interest of economy or efficiency for one Region to adopt one standard or design of track or signalling quite different to that adopted by another region. Equally so, to avoid standardisation, spelling stagnation, it was necessary to see that new types or designs were given reasonable trials, and at the same time money was not wasted by an unnecessary number of Regions working on the same problems.

The functional member of the Executive was responsible for ascertaining the practices of different companies in the past, for getting a recommendation as to the practice which should be followed, and lastly for recommending a standard to the Executive, or in some cases getting the Executive to give its blessing to a decision which he had already taken. To take a simple example, the functional member, with the help of the heads of the Civil Engineers' Departments in the Regions, would arrive at a standard design of platform wall, but the functional member of the Executive was not as an individual interested as to where or when these designs were used. The responsibility in this respect came on to the Chief Regional Officer and the heads of the departments under him. In other words, the Chief Regional Officer would decide where he wanted new platforms, or platforms extended. If the expenditure was considerable, he obtained approval for it from the Railway Executive.

Under the former Railway Executive Committee, committees representative of most departments had been set up and they reported to the R.E.C. These committees had been retained very much on the same form under the Railway Executive. By reason of there being new Regions created, membership of the committees had increased. As there were certain subjects which were of common interest to the London Transport Executive as well as to the Railway Executive, a representative of the former Executive attended most of the Railway Executive committees when necessary, and the minutes of common interest were forwarded for approval of both Executives.

At headquarters there was only a skeleton staff. Any drawings, whether of standard designs or anything else, had to be made in one of the regional offices. In the case of the platform walls referred to, the procedure would be for Mr. Train to write to Mr. Wallace, Chairman of the Civil Engineers' Committee, saying that the Executive felt it was time there was a standard design for platform walls, and would he take the necessary action. Mr. Wallace would put the matter on the agenda for a meeting of the Civil Engineers' Committee. Civil engineers would come to the meeting with particulars of designs adopted by their former railways, and it would be decided tentatively what the new standard should be. The meeting would allocate to one engineer the responsibility for having the drawings made in his regional drawing office. These drawings would be circulated to the other engineers, and, if necessary, they would be altered if required, or, if agreed, would be adopted as standard.

## General Railway Classification

(From a Correspondent)

**N**O indication appears to have been given as yet by the Minister of Transport or the British Transport Commission as to the intentions in regard to the charging of traffic by rail and road. Presumably, therefore, the idea is that the present rates and methods of charging shall continue in force until such time as it is possible to consider and legislate on the problem, one of immense scope and complexity.

The General Classification of Goods has often been subjected to criticism on the grounds of its inconsistencies and elaboration, but these complexities are not due to the machinations of distorted intellects with impish propensities; they are attributable to the fact that the railway classification has grown piecemeal from small beginnings, and during its development constant efforts have been made to cater for the ever-changing requirements of trade and commerce. It may be, therefore, that some of the provisions of the classification are now out of date.

In its infancy the railway industry based its methods of charging on the elementary classification which had been

evolved by the canals. For example, in the schedule of charges of the Sheffield Canal, dating from 1815, tolls were levied as shown below:—

	Per ton per mile
Ironstone, slag, etc. . . . .	2d.
Pig lead, bricks, etc. . . . .	3d.
Iron and steel and various descriptions of fruit and vegetables, etc. . . . .	4d.
Dry groceries and all kinds of manufactured goods . . . . .	5d.
Other articles not specially provided for . . . . .	6d.

As these were toll charges, as distinct from conveyance rates, the costs to the canal of providing facilities were precisely the same for the ironstone as for the dry groceries, and yet in one case it charged 2d. per ton per mile and in the other 5d. The fundamental idea was that the cost of transport should bear reasonable relationship to the value of the commodities conveyed, i.e., the principle of what the traffic would bear operated. A charge of 2d. per ton per mile would not have returned a reasonable revenue on the capital cost of the undertaking, and if a toll of 5d. or 6d. per ton per mile had been charged, it would probably have had the effect of precluding altogether the conveyance of the ironstone.

This principle, that the conveyance charges should represent a reasonable proportion of the value of the article or commodity to be transported, has operated all through railway charging and it is difficult to find fault with its soundness from an economic point of view. At any rate the method of classification, with value as the main factor, was confirmed when the Railways Act of 1921 was passed, and the number of classes was increased from 8 to 21.

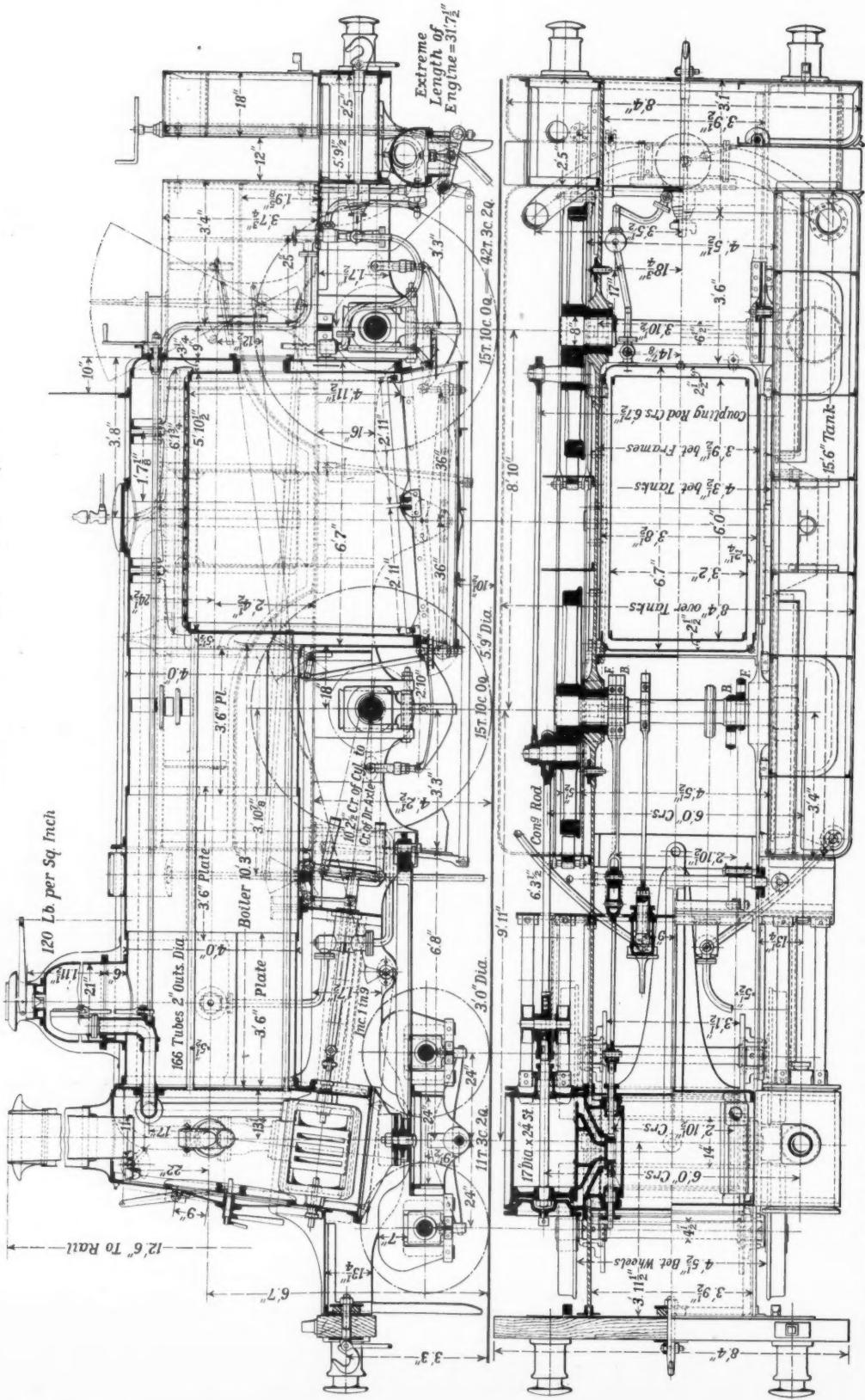
When road motor haulage became an important factor in the general transport situation, the foundations of the railway classification were seriously challenged. The road haulier was quick to realise that the middle range of traffics represented the most remunerative field of activity and concentrated on attracting these traffics to road, leaving the railways with the low-grade traffics, consisting largely of raw materials and often conveyed in train loads, and the higher-grade commodities which passed in small lots and were probably most susceptible to damage. The main considerations from the road haulier's point of view were the relative ease or difficulty in handling and the loading capacity, that is the weight in relation to bulk; a very simple classification therefore would meet their requirements.

As a matter of fact, a large proportion of road operators is concerned only with a small range of traffics, probably arising mainly at one point and being conveyed to a limited number of destinations. While the ever-increasing inroads by road transport on rail carryings before the war were forcing the railways to consider seriously a simpler classification, it by no means follows that the adoption of such a step would be a move in the right direction, or that it would be welcomed by the trading community. It would result in the classification of high-class commodities being reduced, and the railways would necessarily have to seek compensation by increasing the level of charges on low-grade traffics. This would have a very disturbing effect, and that in a direction where it would probably most adversely affect the general economy of the nation.

Now that, under the new order of things, the avowed intention is that road and rail activities should be co-ordinated instead of highly competitive, there seems little justification for interfering with the present classification. The Railway Classification Committee meets every few weeks, with invariably a full agenda, and assisted by chemists and technical advisers, to consider problems arising in regard to existing entries in the classification and to provide new entries to cater for fresh articles or commodities, and this Committee has been functioning regularly for years. The investigation, discussion, and consideration it gives to the problems of classification ensure that the conditions under which traffic is conveyed by rail are not arrived at arbitrarily, but are the result of scientific treatment. In many cases, consultation with the traders concerned takes place before the classification is fixed, and their views as to the suitability of the action proposed are carefully considered.

The present railway classification, based primarily on the principle of what the traffic will bear, represents the patient endeavours over a period of a century to adapt railway charging to the needs of the trading community, and it would be a great pity to jettison it in favour of a simpler but altogether inadequate classification, the conditions of which have been influenced by unbridled competition which it is hoped will cease under the new regime.

## One of the Oldest Surviving Locomotives



*Tracing from the original working drawings of the famous Class "A" 4-4-0 tank locomotives, which maintained underground steam traction on the Metropolitan Railway and the Metropolitan District Railway from 1863 until 1905. The only survivor is now used at Little Bridge Depot, London Transport (see letter to the editor on opposite page)*

## LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

### Tasks of the Railway Executive

Sand Lodge, Shetland. January 22

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—It will be a comfort to many to know that the reputation of the Transport Commission, and its queer-shaped offspring the Railway Executive, is assured a rapid and probably exuberant growth. The pair, according to Mr. Lovatt Williams in your January 16 issue, and others, are to be judged by the improvement they can make on the 1947 results, which obviously represented the best the privately-owned railways could do.

And so the truth now will never be known: that British railways were nationalised in 1939, and that from then onwards the Ministry of Transport possessed and constantly exercised full control of railway policy.

But it will be a pity if, in the fullness of time, the reason given for nationalising boots and shoes is the brilliant advance of nationalised British railways from the 1947 achievements of private enterprise.

Yours faithfully,  
R. H. W. BRUCE

### A Veteran Metropolitan Railway Locomotive

Coulsdon, Surrey. January 19

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—In view of the efforts now being made to secure the preservation of historic locomotives, railway records, and relics, it is particularly appropriate that the original drawings of an interesting veteran have been brought to light from the maker's archives. This locomotive is probably the oldest still in service on a British railway and in substantially its original form. The particulars of the locomotive are as follow and I have pleasure in enclosing the drawing for your use.

Particulars of locomotive:—

Built by Beyer, Peacock & Co. Ltd., for the Metropolitan Railway. It was one of the numerous Class "A" 4-4-0 tank engines, and was No. 23 of the series.

Worked on Inner Circle until electric traction was introduced. Then worked for many years on the branch from Quainton Road to Brill, until this line was closed on December 1, 1935. Now used at Little Bridge Depot.

The only survivor.—When the L.P.T.B. was formed there were three "A" class engines still in service; also two of the slightly modified "B" class. All have since been scrapped, except No. 23 which is now numbered L45.

Reasons for preservation of locomotive.—The locomotives of the "A" and "B" classes are especially notable because they were used on the first underground railway in London, in 1863, and maintained the traffic on the Metropolitan and Metropolitan District railways until electric traction was introduced. It is to be hoped that steps can be taken to secure the preservation of this locomotive, the last survivor of the class.

Yours faithfully,  
M. A. CRANE

### The Franco-Crosti Locomotive

Motovapore, S.A.,  
Milan, Italy. January 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—I have seen with great interest the article concerning the Franco-Crosti locomotives of the Italian State Railways, published in your issue of December 26, 1947, and the letter of Mr. P. M. Bishop, in your issue of January 9, 1948.

This letter gives very accurate details on the performance of the very interesting 2-6-2 "S685" class locomotives, but it seems that the author has not noticed that these locomotives are fitted with Caprotti valve gear. For this reason the remarks concerning the long-travel valves and the streamline steam passages cannot be applied to these locomotives; particularly, the streamline steam passages are a normal practice in cylinders with Caprotti poppet valves.

It is to be noted that the Italian State Railways made the last steam locomotives in 1927, when long-travel valves were a novelty, and these last locomotives were fitted with Caprotti valve gear. The great programme of electrification in Italy placed the steam locomotive in a position of second rank, and the greatest part of the work on steam locomotives after 1927 consisted in the conversion of saturated steam and Walschaerts gear to superheated steam and Caprotti valve gear. For these reasons, you cannot see in Italy locomotives fitted with modern types of piston valve gear.

The Franco-Crosti boiler, with the poppet valves, is responsible for the good exhaust of these locomotives, owing mainly to the lower weight, with lower temperature, of the combustion gases to be exhausted. A smaller back pressure in the cylinders, in comparison with the identical locomotives with standard boiler, is noted at all speeds.

Probably it will be interesting to note that a further 15 locomotives of the "685" class will be rebuilt with Franco-Crosti boilers (of improved design) and Caprotti valve gear.

Yours faithfully,

G. ALESSIO, D.F. ING.  
General Manager

### Livery of British Railways

18, Wheatsheaf Close, Woking.

Surrey. January 26

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—In my letter dated January 21 (published in your January 30 issue) I was in error on one minor point. I gather that the "U1" class Mogul of the late Southern Railway that has emerged from Brighton in a British Railways livery is not lettered "B.R.S.", but has "British Railways" in full on the tender. The locomotive concerned is No. 1891. Two "West Country" Pacifics are now painted "British Railways". Nos. S21C158 and S21C159, both of which have received their names recently. Another locomotive has been reported painted "British Railways" at Brighton, this time an "austerity" 2-8-0; it still carries its usual W.D. number, prefixed, like the other locomotives, with the letter "S."

Yours faithfully,

J. B. LATHAM

### State Organisation of Railways

146, Marlborough Road, Romford.

Essex. January 31

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—May I comment on the incident mentioned in the letter from Mr. W. McGowan Grady in your issue of January 30? I venture to suggest the reason why the dining car attendant did not wish to transfer to the Midland was not loyalty to the North Western, but the fear that the Manchester-St. Pancras run might not be as lucrative as the Euston-Manchester.

Speaking of loyalties, I would like to mention I joined the Great Northern Railway in 1909 and my father was a Northern man from 1885 till 1932. Since the grouping I have worked on more than one of the constituent companies and found there were good qualities in all of them. It was the combination of these qualities which welded the groups into the very efficient companies they became.

British Railways should be built on a similar foundation, and not on the particular colour of a locomotive or piece of rolling stock. Having graduated from the G.N.R., through the L.N.E.R., to British Railways, my loyalty to my parent company is still second to none.

Yours faithfully,

H. BYGRAVE

### Central Line Train Services

25, Bucks Avenue, Watford.

Herts. January 29

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Despite the much heralded posters by London Transport announcing the magnificent new services to be provided by the Central Line, there is still very much to be desired. One humorist in the London *Evening News* describes the line as the "fastest in London"; no doubt he has only read about what it is supposed to do, not what actually happens.

A number of my colleagues are of the opinion that since the electrification the journey from Oxford Circus to Woodford takes 30 minutes longer in each direction, as compared with the old steam days, and the change at Liverpool Street.

In my own experiences recently I have found that it now takes 60 minutes to travel from Ealing Broadway to Oxford Circus, both in the morning and in the evening, and the journey consists of "start-stop" all the way. On two occasions recently, one at 12.30 p.m. and the other at 6 p.m., I have had occasion to wait 20 minutes for a train, and in both cases the stations have been widely separated, the first being at Mile End and the second at Ealing Broadway.

I suggest therefore that the motto of the poor traveller should now be "Avoid the Central Line at all costs."

Yours faithfully,

A. R. GRIERSON

[It has been stated by a London Transport official that one of the chief reasons for the breakdowns which have occurred is lack of new rolling stock, and difficulties in repairs and maintenance, complicated by the lack of accommodation for repairs at certain points on the line.—ED., R.G.]

## The Scrap Heap

### SOUTHERN SALVAGE

The Southern Railway was one of the few organisations in the country to show an increase in paper salvage in 1947; 636 tons were recovered, as well as 65,796 tons of old metal, 180 tons of straw, 72 tons of old rope, and 32,400 bottles.

\* \* \*

### TWENTY-FIVE YEARS AGO

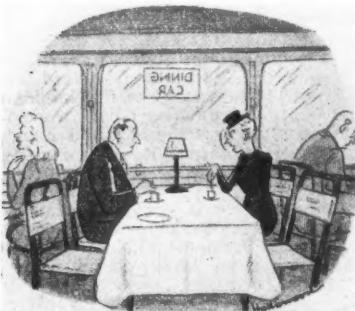
Failing a Channel tunnel, the express train-ferry which it is proposed to establish between Harwich and Zeebrugge offers the best prospects of speeding up cross-Channel commerce of any plan at present under consideration.—From "The Glasgow Herald" feature "Twenty-Five Years Ago" of January 7, 1948.

\* \* \*

### RAILWAY VOUCHERS FOR POST-WAR CREDITS?

Now that the railways are State property, is it not reasonable to imagine that the income-tax post-war credit could be paid out in the form of railway-travel vouchers on application? This scheme would enable many people to enjoy holidays at present beyond their grasp, would popularise the new State lines by an imaginative gesture, would offset the present formidable fares, and would relieve the Exchequer of certain large payments in the vague future.—From a letter to "The Yorkshire Post."

\* \* \*



"I don't think much of the Railway Executive Committee's cooking"

(Reproduced by permission of the proprietors of "Punch")

\* \* \*

### SLEEVE-ROLLING

The way in which old phrases remain in currency in spite of changes and sometimes in spite of superficially doubtful applicability is illustrated anew by the call to railwaymen from their union to "roll up their sleeves" and make nationalisation a success. Of all occupations involving manual work, it may be supposed that that of the railwayman involves the least "rolling up of sleeves." It is quite true that certain important grades may and do work with their sleeves rolled up, but certainly the majority of those with whom the public comes into contact have their sleeves "down." Guards on passenger trains, for instance, are always very fully clothed on duty, even if they do not wear costumes quite so colourful as on some lines long ago. Then there is the great army of ticket collectors and inspectors. Porters have plenty of hard work to do, but some kind of sleeved waistcoat is common wear, and it is by no means always the rule that locomotive drivers should be seen with "sleeves rolled

up." Rolled sleeves are probably less common in modern signal boxes, where less manual labour is needed than of old. The drivers of street vehicles of railway companies seem generally to be very fully clothed. Yet it would have been difficult to find any form of exhortation more suitably compact.—From "The Manchester Guardian."

\* \* \*

### 100 YEARS AGO

From THE RAILWAY TIMES, Feb. 5, 1848

#### OPENING OF THE ABERDEEN RAILWAY.

THE Public are respectfully informed that ON TUESDAY, the 1st of February, the ABERDEEN RAILWAY was Opened for Traffic.

Until further Notice, the TRAINS will depart at the following Hours, or as soon thereafter as circumstances will permit.

#### THOROUGH TRAINS

In Connection with Trains on the Dundee, Perth, and Aberdeen Junction.

From Montrose, Brechin, and Forfar.

At Quarter past 7 o'clock Morning.

,, 35 Minutes past 10 o'clock Forenoon.

,, Half-past 1 o'clock Afternoon.

,, Quarter before 5 o'clock Afternoon.

From Arbroath.

At 10 Minutes before 9 o'clock Morning.

,, 5 Minutes past 11 o'clock Forenoon.

,, Half-past 2 o'clock Afternoon.

,, 20 Minutes past 5 o'clock Afternoon.

#### MONTROSE AND BRECHIN TRAINS.

From Montrose to Brechin.

At 20 Minutes past 9 o'clock Morning.

,, 35 Minutes past 11 o'clock Forenoon.

,, 4 Minutes before 3 o'clock Afternoon.

,, 10 Minutes before 6 o'clock Afternoon.

From Brechin to Montrose.

At Quarter past 7 o'clock Morning.

,, 35 Minutes past 10 o'clock Forenoon.

,, Half-past 1 o'clock Afternoon.

,, Quarter before 3 o'clock Afternoon.

#### THOROUGH FARES.

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† Fare from FORFAR to DUNDEE, with Return Tickets, First Class, 4s. 6d.; Second Class, 2s. 6d.; Third Class, 2s. 6d.

For Fares between Intermediate Stations, see Table of Passengers' Fares.

By order of the Directors,

ALEX. ALLAN, Manager.

Aberdeen Company's Office, Aberdeen.  
N.B. The passengers' stations at Arbroath were removed to the new Junction. Passengers either for the Dundee and Perth trains, or the Montrose, Brechin, and Forfar trains, will enter Keppie-street.

A Hampshire colleague has just seen the new locomotive No. 10,000 on the films, and 100 miles an hour notwithstanding, he is not impressed. More and more he is beginning to live in the past, and to him a railway engine is no true engine if it does not have a brass funnel. Curiously enough our colleague recently in America, far-travelled though he is, has never seen an engine with a brass funnel, and tries to justify his extreme youth by saying that all the brass funnels that ever were could not make a sight so impressive as two diesel-electric locomotives, each as big as a Glasgow Corporation tramcar, coupled outside New York.—From "The Glasgow Herald."

## Railway Progress



Electric Locomotives  
& Diesel Electric Locomotives  
capable of carrying heavy goods  
and passenger express trains

Progress on the

SOUTHERN RAILWAY

A pre-nationalisation poster

\* \* \*

### ABOUT TURN!

A Soviet military tribunal recently has inflicted sentences on railway officials found guilty of inefficiency in securing a quick turn-round of wagons, according to Moscow radio. One of the heaviest sentences was that of three years' imprisonment on an official who was accused of permitting the loss of 11,050 wagon-hours. Another official was sent to prison for two years for allowing 2,226 wagons to stand idle, and for delaying despatch of coal by 16,060 wagon-hours.

\* \* \*

### Coming Events . . . ?



The Chief Commissioner  
Goods section  
British Executed Railway  
Maidenhead

Reproduction of an envelope received recently at a railway office

\* \* \*

### BASIC INVESTIGATION

Police were reported to be hunting the persons who placed petrol cans on the London Midland Region line near Wembley on January 14, thus causing long delays to rail traffic at Euston. The danger was first spotted by a signalman at North Wembley, who saw an object caught between the wheels of an express from Manchester. Following his warning, the train was stopped at the next signal, and a flattened petrol can was found jammed in the wheels. No indication was forthcoming as to whether the interest of the police was aroused by the danger to traffic or by the origin of articles in such keen demand.

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## OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

### SOUTH AFRICA

#### Johannesburg and Germiston Stations

Progress has been made with the redesigning and electrification of Germiston Station and marshalling yards. This will cost £999,550. One new platform at Germiston is in use already, and several more are under construction. Excavations for the new station at Johannesburg are now half complete, and 400,000 cu. yd. of soil have been removed. The Claim Street Bridge is in use, and work is progressing on the new bridges at Harrison Street and Wanderer Street.

To provide for the rapidly expanding industrial demands of Vereeniging, Vanderbijl Park, and the heavy transport requirements of the Free State goldfields, both lines to Johannesburg are to be doubled. They also will be straightened and electrified.

Considerable progress has been made already on the line between Union, south of Germiston, and Vereeniging; and early this year work will begin on the alternative route between Langlaagte, Midway, and Vereeniging. North of Vereeniging, a new marshalling yard is to be built, with a short new line, to link the two routes from Johannesburg. Heavy traffic will be able to by-pass Vereeniging entirely, crossing the Vaal River by a new bridge. Work on the bridge project, which is expected to cost £320,000, has been limited so far to boring operations to test the foundations.

#### Relief for East Rand Coal Traffic

Other important items on the improvement programme include a new line, five miles long, between Springs and Welgedacht, which will provide for part of the heavy coal traffic on the East Rand. Earthworks and culverts on this line are nearly completed, but rails are not yet available. Another track, 13 miles long, is to be laid between Rangeview, which lies between Dunsward and Apex, and Nataalspruit. This line will facilitate delivery of goods from the East Rand to Vereeniging and the South without the necessity of passing through Germiston. It will help also with the delivery of coal from the East Rand to the expanding industrial area of Nataalspruit.

#### Union-Built Rolling Stock

South African engineers built more rolling stock during 1947 than it was possible for the Railways Administration to import. Local industry produced 1,151 goods vehicles, and the railway workshops built 31 suburban passenger coaches and 930 goods vehicles. In the same time, imports totalled only 12 passenger vehicles and 396 wagons. Important arrivals from Great Britain, however, were 88 steam and eight electric locomotives, which helped considerably to relieve engine-power shortage. The construction of locomotives has begun in the Union, as reported in *The Railway Gazette* of October 17, on a small scale. The first two "S1" shunting locomotives completed at Salt River are already in service. Ten more will be ready soon.

The railways now have on order overseas 211 steam locomotives, 20 electric locomotives, 54 electric motor coaches, 245 main-line saloons, 132 suburban coaches, 7,850 eight-wheel goods vehicles, and 138 narrow-gauge wagons. Specifications are being prepared for further large consignments, including 25 main-line steam loco-

motives, 12 narrow-gauge locomotives, 54 electric locomotives, 190 electric motor coaches, 100 inter-suburban coaches, 140 suburban coaches, and 300 narrow-gauge vehicles, in addition to the considerable number of vehicles expected from the railway workshops and from local manufacturers.

### RHODESIA

#### New Locomotives and Wagons

During a recent visit to England, the General Manager of the Rhodesia Railways (Sir Arthur Griffin) increased still further the orders for new equipment, bringing the numbers up to the following totals: 60 Beyer Garratt locomotives (see *The Railway Gazette* of January 9); 12 locomotives from Canada; and various types of wagons, totalling 1,899 in all. Delivery of some of the foregoing locomotives and rolling stock has begun already.

#### Improved Service Conditions for Africans

On January 1 the Government of Southern Rhodesia issued regulations embodying recommendations of the National Native Labour Board, consequent to an inquiry into Rhodesia Railways service conditions. The new conditions are far-reaching, and will benefit approximately 13,000 African railway employees in Southern and Northern Rhodesia.

The new regulations provide, *inter alia*, for wages to range from £1 15s. a month for untrained native labourers to £11 17s. 6d. a month for senior native employees; increased overtime rates; 14 days' paid leave a year; cooked meals for bachelors; improved housing, or rent allowance where no housing is provided; recognition of the African Employees' Association; issue of protective clothing; appointment of two qualified Native Welfare workers; and the setting up of an appeal board.

Improved rations for issue to native employees, women and children, are recommended, but are omitted for the time being from the new regulations owing to shortage of certain foods. The feasibility of introducing a pension scheme for native employees is to be investigated further.

### EGYPT

#### Projected Connection with Sudan Railways

Among the important projects now being studied by the Egyptian Government is the construction of a line from Shellal (present terminus of the Egyptian State Railways) to Wadi Halfa (terminus of the Sudan Railways). Communication from Egypt to Khartoum at present is by the Egyptian State Railways from Cairo to Shellal, thence by steamer to Wadi Halfa, and by the Sudan Railways onwards to Khartoum, a journey which takes approximately 93 hr. The project under study will reduce the journey time considerably, and facilitate transport of products between Egypt and the Sudan.

#### Financial Results 1946-47

During the financial year 1946-47, the Egyptian State Railways carried 56,411,000 passengers, 7,600,000 tons of goods, and 501,000 head of cattle; as against 61,000,000 passengers, 7,900,000 tons of goods, and 550,000 head of cattle in the

previous year. The total receipts were £E.12,270,000, as against £E.14,342,000. The decrease in tonnage and receipts was due partly to reduced traffic carried, and partly to road and water competition.

### FRANCE

#### Further Rise in Railway Rates

The cancellation of the Government subsidy for coal, the higher cost of steel, and rising prices for all kinds of equipment have increased French railway expenditure. In an effort to balance its budget, the S.N.C.F. decided on a further rise in passenger and freight rates, which was imposed on January 5.

Ten per cent. has been added to first and second class fares, but the third class fare remains unchanged. The first class rises from fr. 4·50 to fr. 5 per km., and the second class from fr. 2·92 to fr. 3·30. The average rise in freight rates is 32 per cent., but the tariff for foodstuffs and agricultural produce remains unchanged.

#### Services Reduced to Save Coal

To save coal, the S.N.C.F. has reduced main-line and Paris suburban train services as from January 6. Fewer suburban trains are being run in the off-peak hours. Some main-line trains have been taken off, and others run only two or three times a week.

In the South-East Region, the "Riviera Express" from Paris to Vintimille (Italian frontier) has been cancelled. The expresses which used to run twice weekly from Paris to Grenoble and Saint-Etienne also have been taken off. Two fast trains, the 33-34 Paris to Marseilles and the 1019-1020 Paris to Nevers, no longer run on Sundays. Two expresses from Paris to Clamecy are running twice a week only. For the winter sports season, however, from January 23 to April 3, the S.N.C.F. is providing a through train from Paris to Bourg-Saint-Maurice, leaving Paris at 8.40 p.m. on Fridays and Saturdays. Return trains from Bourg-Saint-Maurice run every Sunday and Thursday.

### CHINA

#### New Station at Nanking

The new railway station at Nanking, built at a cost of \$10,000,000,000 (Chinese) was completed last December. The new building is in the form of a "U," of which the left wing houses booking offices, a parcel room, telegraph offices, and the offices of the China Travel Service; and the right wing contains a post office, a reception room for distinguished visitors, a restaurant, a left-luggage office, a hostel, a dormitory for railway workers, and a roof garden.

The foundation stone of the new station building, which was designed by S. S. Kwan, a well-known Shanghai architect, was laid in May, 1947. It is badly needed to handle the increasing volume of passenger traffic which the station handles. Some 17,000 passengers pass through the station daily.

### MALAYA

#### Railway Servants Assist in Census

The first population census for 17 years took place on September 23, 1947. This census aimed at collating much more comprehensive statistical data than are required usually in a population census. The questionnaire forms and schedules were so designed that diverse details of profession and languages, spoken and written, were represented in the returns.

Over 50 selected and specially-trained

Malayan Railway personnel assisted in the actual census on the night of September 23. This staff was drawn from clerks, guards and signalmen, and comprised Chinese, Malays, Tamils from India and Ceylon, and Sikhs, all of whom speak English in addition to their mother-tongue. Their duties were to act as enumerators, travelling on the night mail trains between Singapore and Penang, and ascertaining from every passenger such details as were required by the census.

## ARGENTINA

### Summer Train Services

There are no important innovations in the way of reduced timings or new facilities in the summer timetables of the principal railways, which are now in force. On the Central Argentine, however, the sleeping car express the "Rayo de Sol" between Buenos Aires and Córdoba now runs daily instead of four times weekly, while the day express "El Serrano" also runs daily, in two parts. A new express to Córdoba, serving Rosario and principal stations en route, has been introduced for the first time, and has been named "El Serrano Rosarino."

On the main line to Tucumán, a new sleeping car express, the "Estrella del Norte," has taken the place of the stopping train on one day a week. The service between Buenos Aires and Santa Fé has been much improved by the running of diesel railcars twice daily between Santa Fé and Rosario, in connection with the express service between Buenos Aires and the latter city.

On the Buenos Ayres Great Southern, the service to Mar del Plata is much the same as in the previous summer season. A morning express, the "Aguila del Mar," runs daily in the season, covering the 247 miles in 5 hr. 20 min. An afternoon express, "El Costa Sud," runs on Fridays and Saturdays, and an evening express, the "Golondrina," on Fridays. The sleeping

car express, the "Luciérnaga," and a semi-fast sleeping car train run on three days a week each. The services to Necochea, Zapala, and Bahía Blanca also have been increased.

On the Buenos Ayres Western and Buenos Ayres & Pacific there are few modifications, although on some of the branch lines increased services are in force.

As regards the State Railways, the incorporation of the Santa Fé Railway and the General Railway Company of the Province of Buenos Aires has made necessary the introduction of a number of changes, including the extension of some of the ex-Santa Fé trains from Rosario to Retiro (Buenos Aires). Other adjustments, such as the re-numbering of trains, and the closing of stations in places previously served both by the State Railways and one or other of the lines acquired, have been carried out, but speaking generally there is not a great difference between the new timetable and the previous one.

## UNITED STATES

### Request to Drop Passenger Business

A petition has been filed by the Norfolk Southern Railway with the North Carolina Utilities Commission requesting authority to discontinue the operation of passenger vehicles on main-line trains between Norfolk, Va., and Raleigh, N.C. The trains concerned then would cater only for mail and parcels traffic. The section covered by the petition is the only part of the railway on which passengers are now carried.

### "Golden State" Acceleration

On January 4 the "Golden State" diesel streamline train, operated by the Chicago, Rock Island & Pacific and the Southern Pacific between Chicago and Los Angeles, was placed on a 45-hr. schedule. The new timetable reduces the former running time by 4 hr. 15 min. westbound and 3 hr. 15 min. eastbound. Extra fares of \$10 for sleeping car passengers, and \$3.50 for coach passengers are being charged. Con-

currently with the inauguration of the new schedule, two new lightweight stainless steel cars were added to the formation of the train.

## SWITZERLAND

### Rubber-Tyred Railcars Ordered

At the end of last year the Swiss Federal Railways ordered two lightweight steel coaches with rubber tyres for experimental purposes. The two vehicles will be for second class and third class passengers respectively, and each will be equipped with two, 10-wheel bogies and Michelin rubber tyres. Trial runs of the vehicles in lightweight fast trains are expected to take place in the early spring. This experiment is in pursuance of an intention formed by the Federal Railways in 1939.

### Gotthard Doubling Progress

Early last December two tunnels to accommodate a second track between Brunnen and Sisikon (3.7 miles) on the Gotthard route were completed. It has been necessary to provide a new location, to the east of the original line, for the additional track over most of its length. The two tunnels are the Morschach Tunnel (4,290 ft.) and the Frohnapfstock Tunnel (9,158 ft.). Regular traffic over the new line began at midnight on December 14, but at the same time running was suspended on sections of the original track which are to be reconditioned or rebuilt.

The only section of the route which still has only one track is on the dam which carries the line across the southern end of Lake Lugano, between Melide and Maroggia-Melano. Single-line working still obtains between these two stations, which are 2½ miles apart, although the dam itself is only a few hundred yards long. Earlier stages in the doubling work were recorded in *The Railway Gazette* of January 10 and February 14, 1947; and November 2 and March 1, 1946. A table of earlier openings appeared in the issue of November 5, 1943.

## Publications Received

**Locomotive Management: Cleaning—Driving—Maintenance.** By Jas. T. Hodgson and Chas. S. Lake. Ninth Edition, revised by Charles E. Lee. London: St. Margaret's Technical Press Limited, 33, Tothill Street, Westminster, S.W.1. 8½ in. x 5½ in. 512 pages. Price 10s.—For forty years this book has been recognised as a standard text book for all concerned with the cleaning, firing, driving, and servicing of the steam locomotive in the British Isles. It was revised extensively in 1939 with the seventh edition, but war conditions caused an eighth edition to be produced in 1942 practically without change to meet the needs of more rapid promotion of staff to satisfy the large increase in the number of firemen and drivers necessitated by war conditions.

With the present edition, the text has been subjected to complete revision, although no fundamental change has been made in the structure of the book. Rewriting of various sections has been designed to secure greater clarity and simplicity as a result of experience in the use of the volume; developments with permanent way that have their repercussions on locomotive operation have been borne in mind; the extended use of wheel arrangements that formerly were unknown or little-used in this country has caused the locomotive classification section to be

re-written; all references to the use of oil firing have been brought into line with the post-war position resulting from acute coal shortage; and an entirely new chapter on oil-burning locomotives and their firing, with drawings, has been inserted as Appendix I.

The many line diagrams which illuminate and explain the text have been redrawn entirely, in standard form, in the drawing office of *The Railway Gazette*. All the photographic illustrations are new and many are from new photographs taken specially for this edition, although subjects which are felt to be incapable of substantial improvement have been repeated. In all there are some 300 illustrations.

The main work is divided into 22 chapters, and there are appendices (in addition to that on oil firing) dealing with the locomotive booster; the Goodall articulated drawgear; locomotive cabs and fittings (with many keyed illustrations of the controls); and representative dimensioned locomotive diagrams. A comprehensive index makes this wealth of information readily available.

**Rubber Developments.**—The chief interest to our readers of this second number (dated December, 1947) of the British Rubber Development Board's new journal will be the account of the use of rubber in the Micheline railcar manufactured by

the Michelin Company of France. Traditional design has been discarded and the car, driven by a petrol engine, is of lightweight construction and carried on 24 pneumatic rubber tyres, thus decreasing the load per wheel in comparison with stock of conventional type. The main objection commonly raised against the rail tyre, that it slips on a wet surface, has been overcome with a design by which the edges of the tyre brush away the film of water from a wet rail. Comfort, absence of noise and vibration, and lower capital, running and maintenance costs are some of the advantages claimed for the coach. Another use of rubber mentioned is in a type of elastic joint, known as a Bibax.

**Visco Water Cooling.**—The evolution of water cooling in industry from the simple open pond to the modern forced draught cooling tower is traced in this catalogue published by the Visco Engineering Co. Ltd. The principles of water cooling and types of cooling towers embodying them are explained in language comprehensible to the layman as well as the chemical and mechanical engineer, for whom the publication is intended primarily. The needs of industrialists interested in territories overseas have been kept in mind, and an interesting table is given in conclusion showing mean minimum and maximum temperatures and relative humidity in selected towns in all the five continents.

## Linking Rhodesia with the West Coast of Africa

*Proposal for a new line across Bechuanaland to connect with Walvis Bay in South West Africa*

THERE has been a further announcement in regard to the proposed rail link between Rhodesia and Walvis Bay. Sir Godfrey Huggins, Prime Minister of Southern Rhodesia, has stated at a Press conference that if the Colony can get the goodwill of the British and South African Governments, surveys will begin early in 1948 for a railway line across Bechuanaland and South West Africa to Walvis Bay.

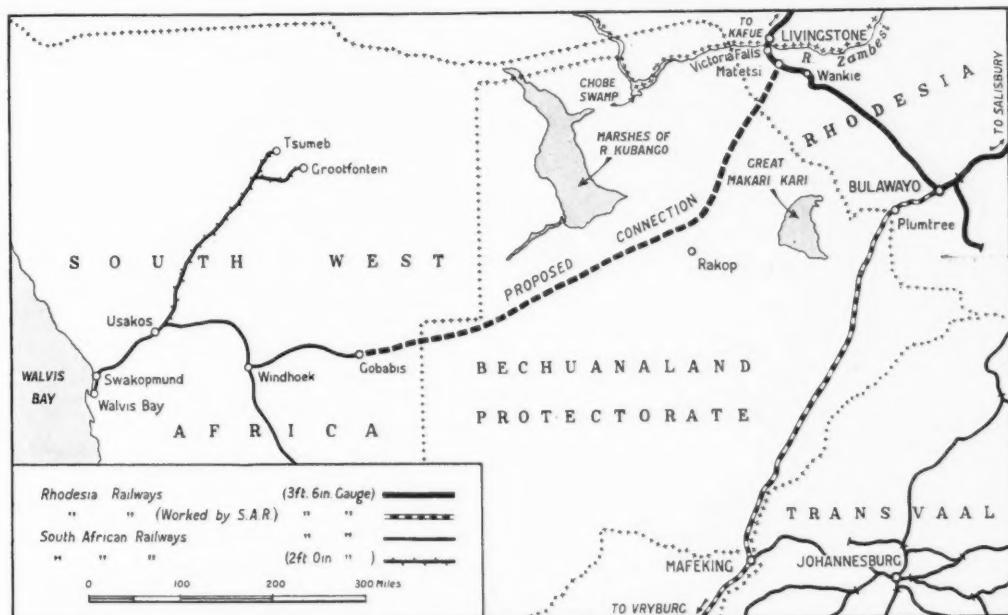
The survey probably will follow the route mapped after a reconnaissance con-

ducted in 1931 by Mr. J. L. S. Jeffares, M.I.C.E., who recommended a line from the S.A.R. branch-line terminus at Gobabis in South West Africa to Matetsi, 36 miles north of the Wankie coal mines, on the Rhodesia Railways.

In 1931 the estimated cost was £4,010 a mile, amounting to £2,381,968 for the total distance of 549 miles, but it is unlikely that such a low construction cost could be achieved now, though in the main the country is very easy for railway construction.

While the Imperial Government may be prepared to grant Rhodesia title to land for a railway line through Bechuanaland, the position so far as South West Africa is concerned is likely to prove difficult, for recent debates of the United Nations Assembly have indicated a divergence of opinion in regard to South West Africa. Hitherto the Union held it under a mandate from the League of Nations and administered it almost as a fifth province of South Africa.

What most Rhodesians are anxious to avoid is the Colony's continued reliance on railways running through other territories to a port not directly owned and controlled by Rhodesia, but the Walvis Bay project would still leave that question open.



Suggested course of new rail connection from Rhodesia to Walvis Bay

## Rapid Relocation Work on the Missouri Pacific

*During four hours between trains an embankment 200 ft. long and 8 ft. high was built, and the main-line track laid over it*

THE Missouri Pacific Railroad now has in hand an extensive scheme for improving alignment and stabilising formation on its main line, with a view to running faster and heavier diesel-electric-hauled trains. An important part of this project now completed is a relocation near Granite Bend—some 145 miles south of St. Louis on the banks of the Black River—which entails a new rock cutting through monolithic granite and an adjoining fill in the old bed of the river. Excavation in the cutting went ahead without interfering with traffic on the then existing line, but the fill could be undertaken only by cutting the track, across which it had to be constructed.

The problem set the engineers was to complete this 200-ft.-long, 8 ft.-deep rock fill without interrupting essential traffic, and the longest possession obtainable was four hours. The job was started immediately after the northbound passenger train,

No. 26, had passed at 8 a.m., when the track was cut and granite spoil pushed in over the old river bed and also over the old formation with bulldozers. About 450 cu. yd. of material were thus placed to form a new embankment with a formation level considerably higher than that of the old line and safely above river flood level. The embankment was then packed and consolidated by bulldozers working as rollers.

At the same time the new track was laid by a locomotive crane which lifted into position 39-ft. lengths of completed track, consisting of 112-lb. rails laid on steel bearing plates fastened to creosoted wooden sleepers; gangmen kept pace with the usual jointing, packing, and straightening. By 11.30 a.m. the last length of track had been swung into place, half an hour ahead of schedule and leaving only final connections and adjustments to be made. At 12.5 p.m. No. 3 southbound "Ozarker," run-

ning to time, passed over the new embankment and through the cutting. The total length of track-linking required was 300 ft., according to our American contemporary, *Engineering News-Record*.

**BERKELEY SQUARE OFFICE FOR BRITISH ALUMINIUM COMPANY.**—The British Aluminium Co. Ltd. has bought No. 46, Berkeley Square, London, W.1, for use as offices.

**CONTROL OF IRON & STEEL.**—The Ministry of Supply has made the Control of Iron & Steel (No. 62) Order (SI No. 81, 1948) and the Control of Bolts, Nuts, etc. (No. 15) Order (SI No. 80, 1948), which came into force on January 28. The Control of Iron & Steel (No. 62) Order consolidates, with amendments, all previously subsisting Control of Iron & Steel Orders other than the Scrap Orders. The Control of Bolts, Nuts, etc. (No. 15) Order increases maximum prices for a limited range of steel bolts, nuts, screws, screw studs, washers and rivets. Copies of the Orders may be obtained from H.M. Stationery Office, Kingsway, W.C.2, or through any bookseller.

## Reconstructing the Rome-Genoa Route

*Temporary bridges, with single track, remain the principal obstacle to normal working on this important Italian State Railways artery*

THE reconstruction of the heavily-damaged 311-mile main-line connecting Rome with Genoa has proved one of the major tasks in the rehabilitation of the Italian railway system. Thanks to strenuous efforts, it was possible to resume train services over the whole line soon after the end of the war, but they were limited to a single track, and subject to numerous speed restrictions over bridges and other structures.



The main line from Rome to Genoa, showing the principal rivers crossed

tures that had been rebuilt temporarily. Moreover, since the Germans had dismantled the electric overhead system in order to add to their reserves of copper, steam traction had to be used.

In recent months many temporary structures have been replaced by permanent ones, 250 permanent and temporary bridges and structures, in addition to a greater number of minor works, having been rebuilt or repaired. At the same time the work of restoring the formation for the second track and laying the permanent way, together with re-electrification, are reported to be proceeding satisfactorily.

The only weak point in the reconstruction between Genoa and Spezia was the temporary timber viaduct near Recco, 13 miles east of Genoa, which replaced the long masonry viaduct destroyed by an Allied air attack on the Germans. The timber viaduct is still in use. Until it was completed early in March, 1946, when through running of trains between Genoa and Spezia was resumed, as reported in *The Railway Gazette* of May 31, 1946, passenger traffic between the two sections of line separated by the viaduct was maintained by bus services. This temporary viaduct, as well as other temporary structures, still impose many speed restrictions,

and further delay traffic by the fact that they carry only a single track.

While the reconstruction of the Recco viaduct in permanent form, as well as of those near Zoagli and Moneglia (both east of Recco) is to be taken in hand shortly, several temporary bridges are being replaced at present by permanent structures. These include the bridges over the Rivers Marta and Mignone (a few miles north of Civitavecchia); over the Albenga River, 98 miles north of Rome; and the bridges over

the Ombrone (near Grosseto), Cécina (near Leghorn), Arno (at Pisa), and Entella Rivers.

In accordance with the electrification policy of the Italian State Railways, the d.c. 3,000-volt system has been adopted for re-electrification of the Genoa-Rome main line, replacing the former 3-phase, 16½-cycle a.c. system. In addition to the re-electrification progress reported in *The Railway Gazette* of August 15, 1947, later developments have been the introduction of electric traction on the 27·3 miles between Sestri Levante and Spezia last November, and re-electrification of the 9·9 miles between Spezia and Sarzana (the junction with the main line from Parma) in December.

## A Portable Water Level Recorder

*A compact instrument for use with deep or shallow tanks*

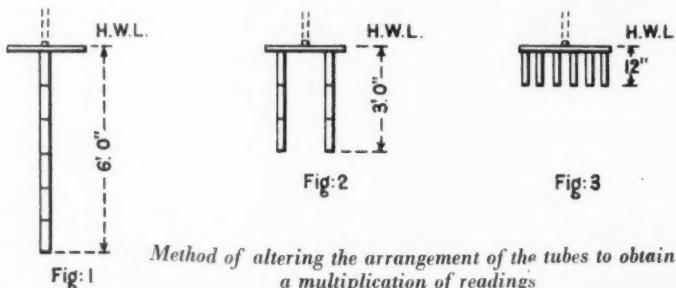
IT is often necessary to obtain a record of the variation of the levels of water in storage tanks and reservoirs, but, except in the case of large units, the installation of a recording instrument as a permanent fixture cannot be justified. The instruments normally used for this purpose are pressure gauges, worked from a rubber bulb immersed in the water and connected to the gauge by an air-tight pipe, the variation of the height of water above the bulb varying the pressure, which is recorded on a chart.

There is a field for a portable instru-

ment shown in Fig. 1, the instrument will record a variation of from 0-6 ft., and the movement of the pen across the chart will represent 6 ft. depth of water.

When coupled as in Fig. 2, the range is 0-3 ft., and the width of the chart represents 3 ft. If coupled as in Fig. 3, the range is 0-12 in., and in this case the width of the chart represents 12 in. of water. By altering the tube arrangement the readings are multiplied, and for small variations in levels clearer records are obtained.

The tubes, screwed to a small crosshead, are suspended by a brass chain attached



Method of altering the arrangement of the tubes to obtain a multiplication of readings

ment which is not dependent on an air-tight connection, which is compact and light in weight, and which is arranged to record over the full width or radius of the chart, whether used on a deep or on a shallow tank. One such instrument was designed recently by Mr. J. Walter, of the Chief Mechanical Engineer's staff, L.M.S.R., to give full-scale readings over varying ranges of rise and fall.

In essence it consists of a series of sealed brass tubes suspended in the water from a spring balance. By an elementary principle of hydraulics, when a body is immersed in a liquid, provided it does not float, its effective weight will become less by the weight of the volume of the liquid it displaces.

Thus, when the tubes are suspended in the water, the weight recorded on the spring balance will vary as the water rises or falls up or down the tubes. A mechanism is connected to the spring to record the movement by means of a pen on a roll-type chart driven by clockwork.

The tube is made of 1 in. dia. brass tube and constructed in six 12 in. lengths. Each length is sealed at both ends and provided with screwed connections so that they may be joined together. When the tubes are coupled together end on, as

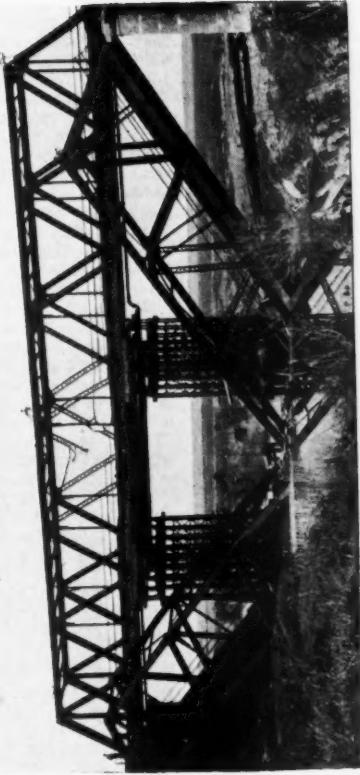
to a hook fixed on the end of a piece of strong gut which passes over a pulley, mounted on a small ball bearing and joined to the spring.

The spring and recording mechanism is mounted in a suitable box which can be placed at any convenient point on the side of the tank or reservoir. The pulley is carried on an arm which can be swung out to keep the tubes clear of the sides of the tank. When not in use, the tubes are packed in the box measuring 15 in. x 9 in. x 7 in. deep, and the total weight is 16 lb.

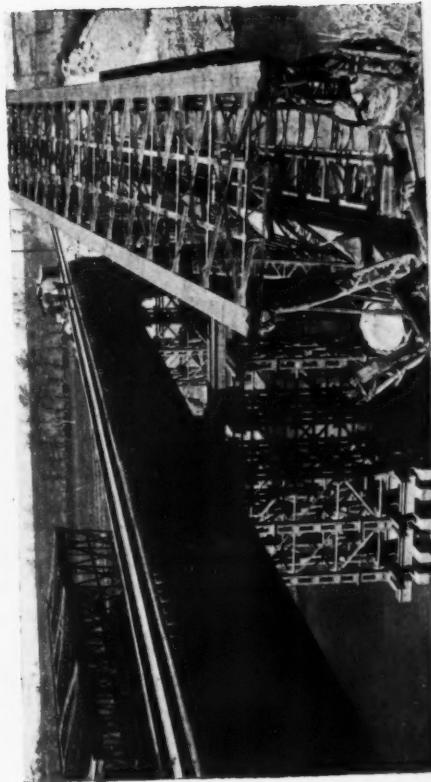
It may be argued that as the tubes get lighter or heavier as the water rises or falls, they will themselves rise or fall due to the movement of the spring. This is true, but the total movement of the spring is only  $\frac{1}{4}$  in., and hence the error in the 6 ft. range is only 0·5 per cent, and in the 12 in. range, 3·1 per cent. Water in a tank or reservoir is rarely still, and this will outweigh the slight inaccuracies.

The diameter and length of the tubes described were decided on as they met the requirements for which this particular instrument was needed. By altering the size of the tubes and spring, however, an instrument could be constructed and calibrated to record variations within any reasonable limits.

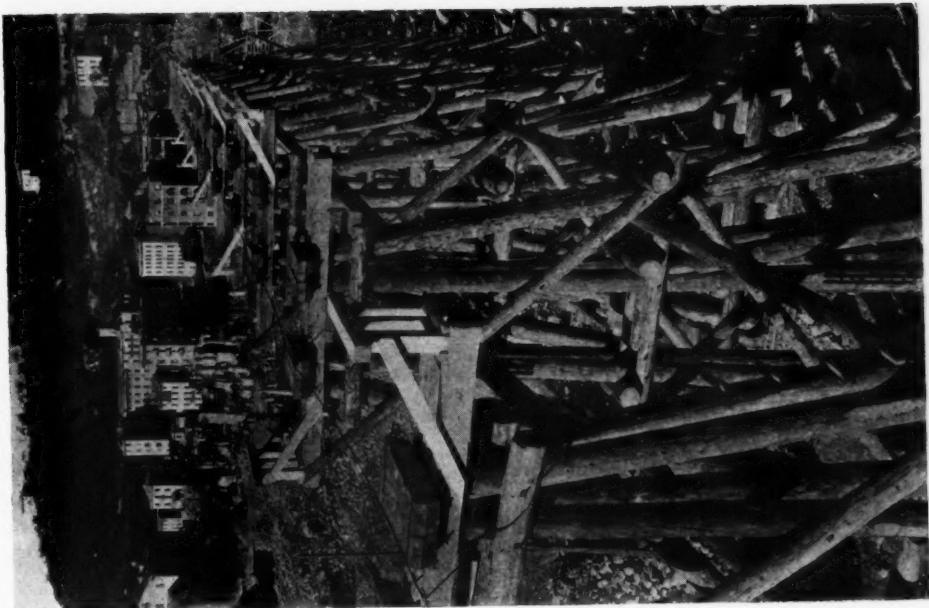
## Rebuilding the Rome-Genoa Main Line, Italian State Railways



*One span of the Mignone Bridge repaired for single-line working*



*Single-track bridge over the River Marta, with girders of the war-damaged structure alongside*



*Temporary viaduct under construction at Recco to replace the permanent bridge destroyed in an Allied air attack*

## Intermediate Signalling in the Gotthard Tunnel

*Intermediate section signals, combined with crossovers in the middle of the tunnel, provide maximum facilities for train operation and the carrying out of repairs*

By E. Felber, formerly Chief Signal Engineer, Swiss Federal Railways, Berne\*



Axle-counting impulse magnets on track in the tunnel

AS announced briefly in the Overseas columns of *The Railway Gazette* for August 9, 1947, the Swiss Federal Railways have installed intermediate signalling, with remotely-controlled apparatus, in the Gotthard Tunnel, which is situated on the

have generally to be divided in two on the steeply graded sections. The two portions are coupled together again on reaching Göschenen or Airolo, proceeding as a single train thence through the tunnel and down into the valleys.

min., and with ordinary passenger and freight trains 15 min.

### Intermediate Signalling

In order to increase the carrying capacity of the tunnel section, it was divided in 1938 by the installation of intermediate signals placed half-way through. These were operated from Göschenen as advanced starting and outer home signals, in order to avoid having to station a signaller in the tunnel, the condition of the additional block sections being proved by axle-counting apparatus, an arrangement which had been used already in the Hauenstein (lower) tunnel, between Tecknau and Olten.

This was satisfactory from the point of view of dividing the long section, but it was found that additional facilities were required to cover maintenance work, either on the tunnel structure itself, the permanent way, or the overhead contact wire equipment. Extensive repairs are undertaken usually in the winter months, when it is difficult to work out in the open, and as a rule they necessitate one track being put out of use, so that single-line working must be put into operation, which in turn affects the working of the intermediate signalling apparatus.

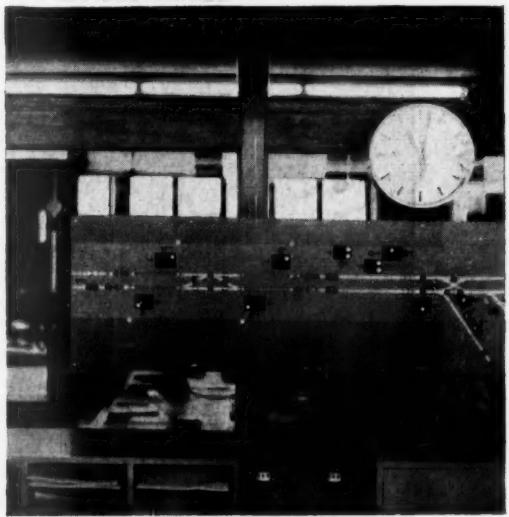
With the increased train service which has had to be run of recent years, especially in connection with the heavy transit freight traffic, this single-line working was found to be very troublesome, and in addition the safety of it depended on the exchange of telegraph or telephone messages between those in charge at the ends of the tunnel.

### Provision of Crossovers

In order to limit to a minimum the inconvenience arising from single-line working, and retain to the utmost the benefit



New electric power frame at Göschenen Station



Track diagram at Göschenen

main traffic route leading from Basle to Chiasso.

Traffic operation on this route is affected considerably by the carrying capacity of the mountain section between Erstfeld and Biasca. On the comparatively level sections it is possible to run the heaviest trains in one portion, but freight trains

On the approach to the tunnel the block signalling sections, which extend usually from station to station, but are subdivided in places by block posts, have a maximum length of 8 km. (5 miles) but the tunnel section, between Göschenen and Airolo was formerly over 15 km. (9.3 miles) long and a serious obstacle to traffic working. The shortest headway that could be obtained with fast passenger trains was 12

of the subdivision of the long sections, the Traffic Department asked for crossovers to be provided in the middle of the tunnel, as had been done in the Simplon Tunnel. When the latter was opened in 1906 as a single line, a crossing station and signal box were provided half-way through, and on the completion of the second bore, after the 1914 war, this was converted into a double crossover installation, with remote-

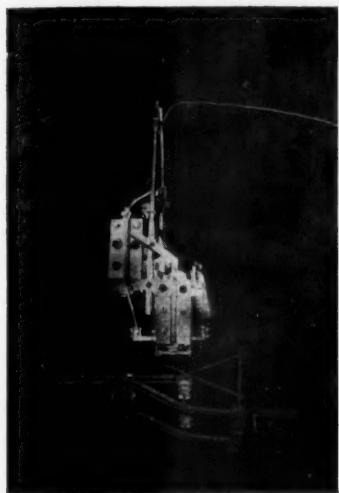
\* Now General Manager, Birsig Valley Railway, Basle

control of the signals when the signal box was closed and axle-counting apparatus.

The Simplon signal box has to be opened, however, when the crossovers are in use, but the great heat met with in the tunnel renders it uncomfortable to work. It was sought, therefore, to avoid having to station an official at any time in the Gotthard Tunnel, by operating the crossovers from one of the stations outside, and this has been done, the entire installation being under the control of the supervising official at Göschenen.

#### The Gotthard Layout

The accompanying diagram shows the installation, which was brought into service on November 21, 1946, with the signals, points, track circuit and axle-counting sections and other relevant details. The tunnel location is signalled and treated as a station; that is, it is provided with home signals in each direction, E 1/2 and H 1/2 reading past or over the crossovers 1/2 and 3/4, and, of course, distant signals E\* and H\* in rear, while, in order to obtain additional signalling sections, starting signals F1 and G1, with their own

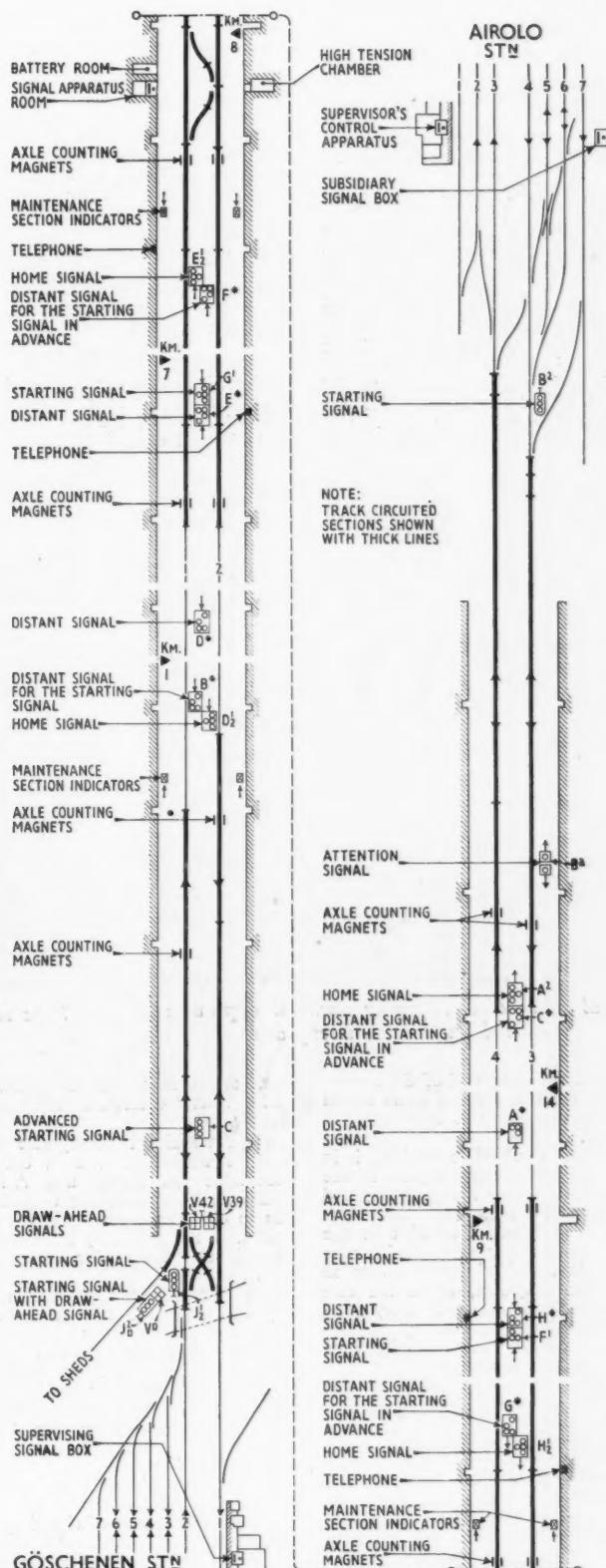


*Light signals suspended from crown of the tunnel*

separate distant signals, as is usual in Swiss practice, have been installed some distance in advance of the crossovers in each direction.

The signals are not fixed on the side-walls, but are suspended from the crown of the tunnel, which gives better visibility in this case, as they apply to either track, whichever happens to be in service for a particular direction of running. All are equipped with automatic train control indicators, on both tracks.

The effect of these arrangements is to divide the tunnel into four main signalling sections marked 1, 2, 3, 4, with the intermediate layout adjoining, on any one of which single-line working can be put into operation. If, for example, this is the case in block section No. 1, and two trains are running in the tunnel in the Göschenen-Airolo (north to south) direction, while another is approaching in the opposite direction from Airolo, the second south-bound train does not have to wait at the end of section No. 1, at signal E 1/2, until the first reaches Airolo, but can run forward to signal F1, inside the "station limits" of the intermediate location and



*Intermediate signalling in the Gotthard Tunnel*

clear of the crossovers, so allowing the northbound train to enter the single-line section and travel on the wrong line towards Göschenen.

When ordinary double-line working is in force, three trains can be travelling in the same direction, one in each of the main block sections and one in the "station limits" at the intermediate location, on both northbound and southbound roads.

#### The Apparatus

In 1921 the first electric power frame seen on the Swiss Federal Railways was installed at Göschenen, working in conjunction with a supervisor's control apparatus in the station. This was of A.E.G. design. As it was not practicable to modify the arrangements to suit the intermediate signalling layout, a new frame was installed in a "supervising" signal box, that is, a signal box where the official is stationed who is responsible for the whole of the working in the station. This signal box operates the whole of the points

traction supply, with accumulators to ensure continuity of service at all times. There is a special switchgear chamber, with isolating switches for the contact wire sections, opposite to which is a signal apparatus room containing a small signal frame, from which the crossovers can be operated in case of need, with telephone equipment and repeater relays for the station-to-station signal gong circuits, over which the departure of all trains is announced forward, in the manner usual in Switzerland. At the rear of this room is a closed and locked portion containing all the other apparatus, relays, fuses, and so on; and an illuminated diagram enables anyone stationed there to note the condition of the signals and signalling sections. There is a separate accumulator room.

#### Single-Line Working

When single-line working has to be put into operation, the intermediate home signals E 1/2 and H 1/2 are brought under the additional control of the supervisor's

This interesting signal installation was designed to the requirements of the Operating Department of the 2nd Division of the Swiss Federal Railways, under the Divisional Signal Superintendent in Lucerne, Herr F. Winiger, who supervised the installation work; the greater part of the equipment, including the new box at Göschenen, the intermediate location, and the additions at Airolo, was supplied by Integra A.G. at Wallisellen, Zurich. The small number of cable conductors available through the tunnel made the transmission of the necessary controls between the two ends rather complicated in the case of single-line working, a difficult problem which was solved by using an a.c. impulse or code system and motor-type rotary selector switches designed and supplied by Albiswerk A.G., Zurich.

The entire equipment has given great satisfaction since it was brought into use. Maintenance work in the tunnel has been facilitated greatly, and whereas formerly it often was necessary to hold a freight



*Signal box at Airolo, showing electrical apparatus beside old mechanical lever frame*



*Supervisor's all-electric control desk apparatus installed at Airolo Station*

and signals at the south end of Göschenen Station, and controls another small signal box which does not require to be manned continuously.

When normal double-line working is in operation, the intermediate signals in the tunnel function entirely automatically and are normally at "clear," the crossovers being out of service. Control over the signals by the trains is effected either by track circuiting, divided into sections as shown on the diagrams, or in the case of the long main block sections by axle-counting mechanism, actuated by the passage of the wheels past inductive type "treadles" or impulse magnets.

The track circuits are single-rail d.c., as used in the Zurich-Oerlikon installation, described in our issue of May 31, 1946, as the traction current is single-phase alternating. The counters for sections 1 and 2 are placed at Göschenen, and those for sections 1 and 4 at Airolo. All signals at the tunnel location have telephones alongside communicating with the adjacent stations. Permission to pass a signal at "danger" must be obtained from the supervisor at Göschenen.

Current for operating the intermediate signals and crossovers is taken from the

frame at Göschenen, after operation of a "King lever" control, in the well-known manner.

If the working is to operate on either of the main sections 3 or 4 between the middle of the tunnel and Airolo, the signalman there either has to give permission to Göschenen or obtain it from that station, as the case may be, using special "permission" levers, for all train movements.

The crossovers are actuated automatically by using the relative home signal levers for the direct or diverging "proceed" aspects in those signals. By operating a special cut-out lever at Göschenen, after which all tracks remain blocked to traffic, the crossover points become free to be moved locally by, say, the maintenance staff for the purpose of examination and testing.

At Airolo Station the old mechanical signalling equipment has been modernised and a certain amount of electric point and signal operation added. All signals are now light signals, as at Göschenen. The old crank-handle type mechanical apparatus, operated by the supervisor in the station, has been replaced by an all-electric desk machine.

train at Göschenen or Airolo for an hour or more, in order to allow more important trains to be got out of the way, now the traffic is carried on with little or no delays, enabling the Gotthard line to hold its own in competition with the other European transit routes.

**WASTE PAPER CAMPAIGN.**—Subsequent to the announcement of the urgent need for a new national waste paper drive, the Waste Paper Recovery Association has formed a committee of representatives of all sections of the Press, the paper and board mills, and the Board of Trade to help prepare plans for a campaign. Mr. Sidney T. Garland, General Manager of the Waste Paper Recovery Association since its inception in 1941, states that an endeavour will be made, with the help of the Press, contests, exhibitions and all forms of publicity, to recapture the wartime enthusiasm for paper salvage; this, Mr. Garland believes, is essential if national recovery is not further to be retarded by the shortage of paper and board for packing our export goods, as well as own foods and other domestic goods.

## New 2-8-2 Locomotives for the Tanganyika Railway

*Although among the largest engines built for the metre gauge, the coupled axle loading does not exceed 10 tons*

RECENTLY, six 2-8-2 locomotives with eight-wheel tenders have been designed and built by W. G. Bagnall Limited, of Castle Engine Works, Stafford, to the requirements of the Crown Agents for the Colonies, acting on behalf of the Tanganyika Railway.

The new locomotives, which are among the largest built for the metre gauge, weigh 98.2 tons in working order, complete with tender. They have been designed for a maximum axle load of 10 tons on the coupled wheels, and to negotiate curves of 330 ft. minimum radius, and gradients of 1 in 45.

It is contemplated that at some future

date, the gauge of the Tanganyika Railway may be increased from 1 metre to 3 ft. 6 in., and with this in view, the locomotives were designed so they could be converted with the minimum of modification. The wheel centres have been made so that new tyres can be fixed to the 3 ft. 6 in. gauge position by reducing the diameter of the wheel centre, and increasing the tyre thickness by  $\frac{1}{2}$  in.

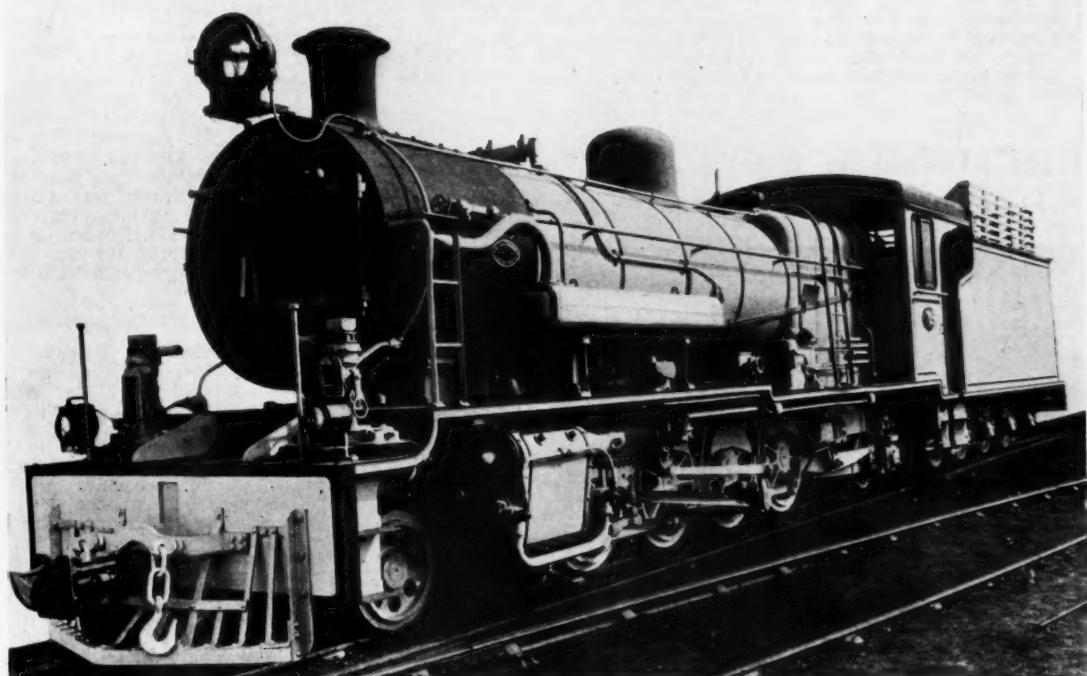
The brake gear has been designed so that alteration of gauge would mean only transposing the brake hangers; no new beams would be required.

The boiler is large, and a wide firebox is provided with a large grate area to suit

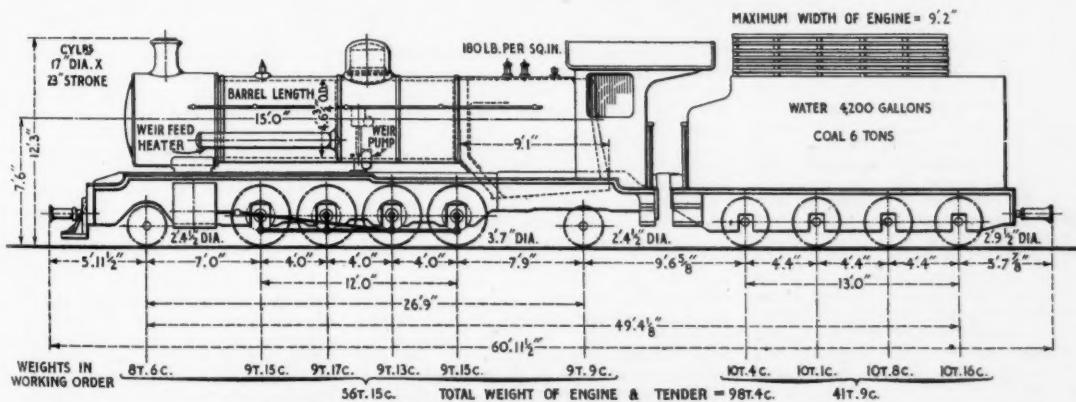
either coal or wood fuel. The inner firebox is of best-quality copper plates, and the water space stays also are copper. The ashpan is arranged with two bottom doors for self-discharge, and these doors are operated by a lever in the cab.

A Melesco multiple-valve regulator-type superheater is fitted in the smokebox. Two regulator handles are arranged on a cross-shaft, so that the regulator can be operated from either side of the cab. The Melesco superheater elements are arranged in 21 flue tubes 5 $\frac{1}{4}$  in. outside dia., and there are 102 small tubes of 2 in. outside dia. The smokebox has a system of deflector plates and perforated plates forming a spark arrester.

Distribution of steam to the brake ejector, steam brake valve, and other fittings is effected from a steam stand which has a shut-down valve to isolate the fittings from



One of the six 2-8-2 locomotives designed and built by W. G. Bagnall Limited for the Tanganyika Railway



Outline drawing and general dimensions of the new 2-8-2 locomotive

boiler steam pressure. A No. 9 injector, with Simplex cones to deal with water at 115° F., and for steam at 180 lb. per sq. in. and under, is fitted on the left-hand side under the footplate, and delivers water to a top-feed clackbox. A Weir vertical single-cylinder direct-acting boiler feed pump also is fitted, and delivers water through a feed-water heater. Two 3-in. Ross pop safety valves are mounted on the firebox. The boiler is lagged with asbestos mattresses and covered with steel clothing sheets.

The main frames are of orthodox type 1 in. thick at the front end, and widened at the rear end to accommodate the wide firebox. At the rear end the frame-plate is  $\frac{1}{2}$  in. thick, and is attached to the front frame-plate by a robust joint casting of steel, ribbed to withstand buffing and draw stresses.

The leading pony truck is of the swing link type, fitted with Timken taper roller-bearing axleboxes, which also are provided for the trailing track. The spring gear is compensated in three units: the front truck and leading coupled wheels; the two pairs of intermediate coupled wheels; and the trailing coupled wheels and

trailing truck. The couplers provided are of M.C.A. type, but the buffer beams are designed so that the standard South African Railways coupler can be incorporated when the rail gauge is altered to 3 ft. 6 in.

Steam distribution is effected by inside-admission piston valves operated by Walschaerts valve gear. Hydrostatic lubrication is applied to the cylinders and siphon lubrication to the connecting and coupling rods and motion parts; mechanical oil lubrication is provided for the coupled axleboxes.

An "S.J." combined vacuum ejector and gradual steam brake is fitted, and the tender is provided with a hand brake.

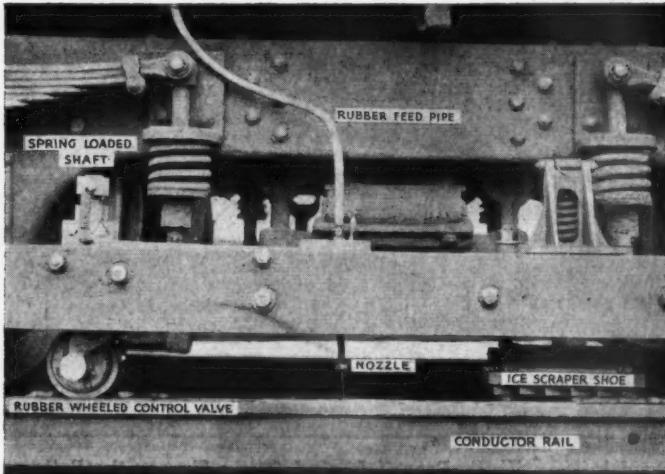
The electrical equipment, by J. Stone & Co. Ltd., comprises a 500-watt turbo-generator supplying current at 24 volts to 14-in. diameter Tonum "E" headlights, one on the smokebox and the other arranged in a recess on the back of the tender tank. A series of four bulkhead lights are arranged underneath the platform on each side of the engine, to facilitate inspection of the motion and of the leading and trailing trucks. The usual gauge, lubricator, cab, and bunker lights are fitted, together with marker lights.

The leading dimensions are as follows:

Cylinders (2), dia. $\times$ stroke	... 17 in. $\times$ 23 in.
Coupled wheels, dia.	... 3 ft. 7 in.
Leading and trailing wheels, dia.	... 2 ft. 4 in.
Wheelbase, rigid	... 12 ft. 0 in.
" " engine, total	... 26 ft. 9 in.
" " engine and tender,	... 49 ft. 4½ in.
Length of engine and tender overall	60 ft. 11½ in.
Heating surface :	
Flues (21; 5½ in. outs. dia.)	... 1,271.5 sq. ft.
Tubes (102; 2 in. outs. dia.)	... 139 "
Firebox	... 139 "
Total	... 1,410.5 sq. ft.
Superheater	... 320.5 "
Combined total	... 1,731 sq. ft.
Working pressure	... 180 lb. per sq. in.
Grate area	... 27 sq. ft.
Adhesive weight	... 39 tons
Total weight of engine in working order	... 56 tons 15 cwt.
Total weight of tender in working order	... 41 tons 9 cwt.
Total weight of engine and tender in working order	... 98 tons 4 cwt.
Fuel capacity of tender	... 530 cu. ft.
Water	... 4,200 gal.
Tractive effort at 85 per cent. b.p.	23,651 lb.
Ratios :	
Adhesive weight to tractive effort	3.7/1
Evaporative heating surface to grate area	... 52.2/1
Firebox heating surface to grate area	... 5.1/1
Tractive effort to evaporative heating surface	... 16.76/1

## Ice Removal on Tyneside Electrified Lines

Solution applied under pressure from specially-equipped vans



Arrangement of jet and automatic valve on bogie

**S**INCE 1938 the conductor rails of the North and South Tyneside Electrified Areas of the North-Eastern Region have been treated systematically throughout the winter months with Kifrost No. 1 Railway Solution. This preparation is applied by means of two specially-equipped vans which carry sufficient fluid to treat the whole of the 90 miles of electrified running lines at least once every trip.

Each van is fitted with a 20-gal. sealed container mounted centrally, to which compressed air is fed from cylinders. From this container, two flexible rubber hose-pipes connect the tank to the control gear, which is mounted on shoe beams on each side of the vehicle. This control gear consists of a spring-loaded slide valve, opened and closed by the vertical movement of a shaft carrying a rubber wheel. The feed valve normally is closed, but as the wheel is lifted by running up the

ramp end of a conductor rail it is opened, and the fluid applied in the form of a jet under pressure to the railhead from a fine nozzle about  $1\frac{1}{2}$  in. above the rail.

### Method of Operating

In operation, the van is attached to an engine and brake van and is restricted to a maximum speed of 15 m.p.h., but experience has proved that the ideal operating speed is about 10 m.p.h. If it is found necessary to scrape the third rail before applying the fluid, this is done quite readily, as the van is equipped with scrapers, and so arranged that no matter in which direction the train is travelling, it is always possible to scrape the rail before applying the Kifrost solution.

The system has proved very satisfactory, no instances of any serious delays to traffic having occurred as a result of icing of the conductor rail since the inauguration of

the system nine years ago. The responsibility for calling the vans rests on the Chief Traffic Controller, who is aided in his decision by the hourly reports received from key signal boxes. It is the usual practice to bring the vans into use if the temperature between 10.30 and 11 p.m. is 32° or less.

**DIESEL OUTPUT BY AMERICAN LOCOMOTIVE COMPANY.**—Diesel-electric locomotives accounted for 85 per cent. of production at American Locomotive Company's Schenectady works during 1947, according to a statement by the Vice-President, Mr. P. T. Egbert, quoted by Reuters. Steam locomotive production was 15 per cent. of the total and was principally for export. This compared with 75 per cent. for steam and 25 per cent. for diesel-electric locomotives in 1946. The ratio of steam locomotive production to diesel types will be reduced even further in 1948, Mr. Egbert said. Work in hand now consists of 92 per cent. unfilled orders for diesel-electrics and 8 per cent. for steam locomotives.

**RAPID RAIL "DRILLING" WITH EXPLOSIVE PUNCH.**—With the aid of a Velocity power rail punch, manufactured by the Mine Safety Appliances Company, of Pittsburgh, Pennsylvania, one man can, it is claimed, punch 30 to 40 bolt-holes an hour in any section of rail up to 112 lb., the holes being up to  $1\frac{1}{2}$  in. dia. The punch consists of a high-tensile steel "U" casting, with a piston, punch unit, and a die through one of its arms, and an opposing bottom die in the other arm; both unit assemblies are threaded and screwed into the arms of the casting. The "U" is placed over the rail in an inverted position and the units are screwed up against the web of the rail. The punch unit has a breach mechanism to take a 0.44—or 0.45-bore blank cartridge, and a light blow with a hammer on the firing pin explodes the cartridge, which drives the piston and punch through the web. The hole thus punched is said to be clean and smooth, free of burrs on both sides, and practically without any taper. No reaming or filing is necessary, and the hole may be of any size required up to  $1\frac{1}{2}$  in.

## RAILWAY NEWS SECTION

### PERSONAL

**M.** William Venner, Chief Mechanical Engineer, Sierra Leone Government Railway, has been appointed General Manager.

**M.** S. A. Suhrawardy, Deputy General Manager, Eastern Bengal Railway, has been appointed General Manager, in place of Mr. F. E. Musgrave, who is proceeding on leave prior to retirement.

**M.** A. P. Reynolds has been re-elected Chairman of the Irish Railway Clearing House Committee for 1948.

We regret to record the death of Mr. George W. Spinney, C.M.G., President of the Bank of Montreal and a Director of the Canadian Pacific Railway Company.

The Netherlands decoration of Commander (Military Division) of the Order of Orange-Nassau has been conferred on Brigadier L. F. S. Dawes who was granted leave of absence from his position as Secretary, Southern Railway Company, to take up military duties during the recent war, and who resumed that position as from January 1, 1946.

Among recent promotions and appointments in the Order of St. John of Jerusalem are those as Knights, of Sir Ronald Matthews (lately Chairman, L.N.E.R.), Mr. W. M. Neal (Chairman & President, Canadian Pacific Railway), and Mr. R. C. Vaughan (Chairman & President, Canadian National Railways); as Commander (Brother), of Mr. Sidney Cooper (Ambulance Centre Secretary, North Eastern Area, L.N.E.R., now North Eastern Region, Railway Executive); and as Officer (Brother), of Mr. A. L. Castleman (lately District Goods Manager, London, L.M.S.R., and now Chairman of Aviagents Limited).

The following officers and committee of the Diesel Engine Users Association have been elected for 1948:—President: Mr. W. Howes; Immediate Past-President: Mr. C. Green; Honorary Secretary: Mr. J. S. Tritton; Honorary Treasurer: Mr. F. A. Greene; General Committee: Mr. S. N. Boyne, Mr. A. K. Bruce, Major-General A. E. Davidson, Mr. G. B. Fox, Mr. T. Hornbuckle, and Mr. F. J. Mayor.

#### CANADIAN PACIFIC RAILWAY

Mr. A. C. MacDonald, Assistant to the President, has been promoted Executive Assistant to the President.

Mr. H. H. Boyd, Assistant Chief of Motive Power & Rolling Stock, has retired.

There will now be two Assistant Chiefs in the Mechanical Department because of reorganisation and expansion of duties, and Mr. W. F. A. Benger and Mr. L. B. George have been promoted to the new posts.

**M.** A. Endicott, M.B.E., F.R.I.C.S., who, as recorded in our January 9 issue, has been appointed Chief Estate & Rating Surveyor to the Railway Executive, has hitherto been Estate & Rating Surveyor, Southern Railway. On leaving Tiverton Grammar School, Mr. Endicott was articled to Marwood J. Cross & Co., land agents, valuers and auctioneers, of Weston-super-Mare; and also became a pupil of Mr. T. Bradford Ball, A.R.I.B.A., Assistant

also, responsibility for all rating matters in connection with that company. He was Chairman of the R.E.C. Surveyors Committee from January, 1943, to December, 1947, and since 1943 he has been annually elected as Member of Council of the Royal Institution of Chartered Surveyors. He was a member of the Inter-Departmental (Ridley) Committee on Rent Control appointed in 1943 by the Minister of Health and the Secretary for Scotland.

**M.** H. P. R. Scott has been appointed Joint Managing Director of Thomas Summerson & Sons Ltd. and of Summerson's Foundations Limited. During the latter part of the war he was Director for Steel Castings at the Ministry of Supply, Iron & Steel Control.

**M.** C. G. Tangye, Assistant Managing Director of Tangye's Limited, is undertaking a business trip by air to India, Ceylon, Malaya, Syria, Egypt and elsewhere.

The Colonial Office has announced the formation of a new Economic Intelligence & Planning Department in the Economic Division to help encourage increased production and a saving of dollar expenditure in the Colonial Empire; an additional post of Assistant Under-Secretary of State in the Economic Division has also been created, to which Mr. W. L. Gorell Barnes, hitherto Personal Assistant to the Prime Minister, has been appointed for one year from February 1.

Mr. H. Butterworth, Sales Manager, Motor & Industrial Control Departments, Metropolitan-Vickers Electrical Co. Ltd., has left the company to take up an executive appointment with Edison Swan Electric Co. Ltd. Mr. H. Boyd Brown becomes Sales Manager, Motor Department, and Mr. C. H. de Nordwall, Sales Manager, Industrial Control Department.

**M.** E. W. Rostern, O.B.E., M.C., who, as recorded in our January 9 issue, has been appointed Chief Officer, Operating (Eastern Group), to the Railway Executive, has hitherto been Superintendent (Southern Area), L.N.E.R. He was educated at Aldenham School. In 1910 he entered the service of the Great Central Railway, and was selected for special training under that company's higher-grade scheme. During the war of 1914-18 he served in France with the Railway Operating Division; in 1917 he held the position of Liaison Officer to the French Commission de Réseau du Nord. After the armistice he commanded the Railway Operating Company stationed at Cologne, and from March until July, 1919, he was on the staff of the Inter-Allied Railway Commission. He held the rank of Major, Royal Engineers, was mentioned in despatches, and was awarded the Military Cross and the French Croix de Guerre. In August, 1919, he was appointed Assistant Traffic Manager (Operating) at Doncaster, but in February, 1920, he was released to

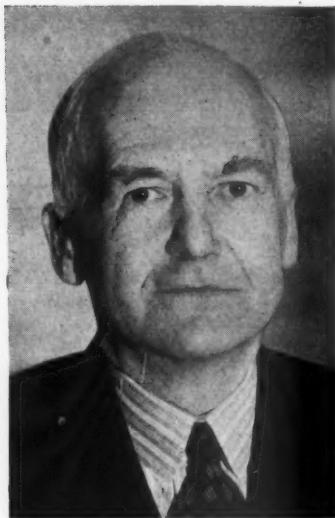


**Mr. A. Endicott**

Appointed Chief Estate & Rating Surveyor to the Railway Executive

**Mr. E. W. Rostern**

Appointed Chief Officer, Operating (Eastern Group), Railway Executive

**Mr. O. H. Corble**

Appointed Chief Officer (Marine), Railway Executive

**Mr. A. Dean**

Appointed Chief Officer, Engineering (Works), Railway Executive

take up an appointment as Railway Adviser on the staff of the Inter-Allied Plebiscite Commission at Marienwerder, East Prussia, where he was required to report on the problems associated with the movement of traffic through the Polish Corridor. In January, 1924, he became Assistant District Superintendent, Doncaster, where he remained until his appointment in 1932 as District Superintendent, Nottingham. From January, 1940, until June, 1941, Mr. Rostern carried out special duties in connection with train working, with the title of Acting Assistant Superintendent (Southern Area); at the latter time he was appointed Assistant Superintendent, Western Section (Southern Area). Mr. Rostern was appointed Acting Superintendent (Southern Area) in August, 1942, and was confirmed as Superintendent for that area at the end of 1945.

Mr. O. H. Corble, who, as recorded in our January 9 issue, has been appointed

Chief Officer (Marine) to the Railway Executive, has hitherto been Assistant General Manager (Ancillary Services), L.N.E.R., in which capacity he had special responsibility for steamships and Continental matters, and was closely concerned with the re-opening of the Harwich routes and the construction of vessels for the Hook-of-Holland and Zeebrugge services. He was educated at Bancroft's School, Woodford, and joined the Great Northern Railway in 1908 in the Secretary's Department, in which he became Chief Clerk in 1921, after having served in destroyers in the 1914-18 war with a commission in the R.N.V.R. Shortly after the amalgamation he was transferred to the Chief General Manager's Office, L.N.E.R., and in September, 1924, became Head of the Salaried Staff Section. Mr. Corble was appointed Assistant District Goods Manager, Newcastle, in 1928, and Assistant to Goods Manager, North Eastern Area, in 1929, which position he held until 1932,

when he was made Assistant to the Chief General Manager & Industrial Agent. He was appointed Assistant General Manager (Ancillary Services) in 1943.

Mr. Arthur Dean, M.Sc., D.I.C., M.I.C.E., who, as recorded in our January 9 issue, has been appointed Chief Officer, Engineering (Works), to the Railway Executive, has hitherto been Assistant Chief Civil Engineer, Southern Railway. He was educated at Halifax Technical College, and at the City & Guilds (Engineering) College. He began his career in 1923 with John Butler & Co. Ltd., the constructional engineers of Stanningley, Leeds, and in 1924 joined the Southern Railway staff as a draughtsman in the Bridge Department. Later he became a surveyor on strengthening, reconstruction, renewal and testing of bridges. In 1936 Mr. Dean became Assistant Divisional Engineer, London West, and in 1939 he was appointed Divisional Engineer, London

**Mr. H. H. Dyer**

Appointed Executive Officer, Engineering (Signals &amp; Telecommunications), Railway Executive

**Mr. R. C. Rattray**

Appointed Executive Officer, Engineering (Development), Railway Executive

**Mr. H. W. H. Richards**

Chief Electrical Engineer, L.N.E.R., 1941-47

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East. He became Assistant Engineer (Maintenance) in April, 1942, Maintenance Engineer in April, 1944, and Assistant Chief Civil Engineer in August, 1946.

Mr. H. H. Dyer, M.I.E.E., M.I.R.S.E., who, as recorded in our January 9 issue, has been appointed Executive Officer, Engineering (Signals & Telecommunications), to the Railway Executive, has hitherto been Assistant Signal & Telegraph Engineer, L.M.S.R. He is the elder son of an old Reptonian, the late Mr. A. H. Dyer, of Derby, and was himself educated at Derby School and Christ's College, Finchley. He received his technical education at Derby, Nottingham and Birmingham. He joined the Telegraph Department, Midland Railway, Derby, as an engineering apprentice in 1907, and after training was appointed Technical Assistant. Mr. Dyer had over 20 years outdoor experience, mainly in connection with electrical signalling and communications, on both new works and maintenance. During that time, he acted as Resident Engineer in charge of the re-signalling of the electrified lines between Bow Road and Barking. On the formation of an independent Signal & Telegraph Engineer's Department of the L.M.S.R., under Mr. A. F. Bound, in 1929, Mr. Dyer was appointed Assistant (Signals) at headquarters, Derby. He was made Development Assistant in 1931. In those positions he gained a wide experience of mechanical signalling and on appointment as Electrical Assistant in 1935 he was made responsible for both mechanical and electrical design. He was appointed Assistant Signal & Telegraph Engineer in October, 1944. Mr. Dyer was President of the Institution of Railway Signal Engineers for 1946, in which year he visited Canada and the U.S.A. to study the latest signalling developments there.

Mr. R. C. Rattray, M.B.E., B.A., A.M.I.C.E., who, as recorded in our January 9 issue, has been appointed Executive Officer, Engineering (Development), to the Railway Executive, has hitherto been Assistant to Chief Engineer (Development), L.N.E.R. He was educated at Charterhouse and at Cambridge, and holds the degree of Bachelor of Arts in Science (with honours). He is a Miller Prizeman of the Institution of Civil Engineers. Mr. Rattray served his pupilage with the Engineering Department, Lancashire & Yorkshire Railway, and later became an assistant on the engineering staff of that company. In 1920 he was appointed Assistant District Engineer for the Guide Bridge District, Great Central Railway, which position he retained after the amalgamation. In 1927 he was appointed District Engineer (Southern District), Scottish Area, L.N.E.R., with headquarters at Carlisle; and in 1937 he was transferred to the Western District, Glasgow, in a similar capacity. He was appointed Assistant to Chief Engineer (Development) in 1943. Mr. Rattray served in France from 1915 until 1919, when he retired with the rank of Captain, Royal Engineers; he was mentioned in despatches. He was awarded the M.B.E. in November, 1941, for an action during the Clydeside bombing.

Mr. H. W. H. Richards, M.I.C.E., M.I.Mech.E., M.I.E.E., M.I.Loco.E., who retired at the end of last year from the position of Chief Electrical Engineer, L.N.E.R., was born at Clifton, Bristol, in 1886, and educated at Bradford College, and at the Faraday House Electrical Engineering College, London. As an assistant engineer with Kincaid, Waller, Manville

& Dawson, consulting engineers of Westminster, Mr. Richards was engaged during the years 1909 and 1910 on technical design and estimating costs in connection with railway electrification. He then joined the traction branch in London of the A.E.G., Berlin, as an assistant engineer, and remained with that company until the end of 1912, in charge of the electrical equipment and rolling stock built by the Metropolitan Carriage, Wagon & Finance Co. Ltd., at Birmingham, for the London Brighton & South Coast Railway, and on subsequent maintenance work in connection therewith. In January, 1913, he entered the service of the L.B.S.C.R. as Electric Traction Engineer, and in that capacity was responsible for electric rolling stock, repair sheds, overhead line equipment, distributing switch cabinets and cables on the 6,600-volt single-phase overhead system. During part of the war of 1914-18 he served with the Royal Engineers in France, and then returned to the L.B.S.C.R. On grouping, he became Assistant Electrical Engineer to the Southern Railway, and held that office until his appointment in June, 1924, as Electrical Engineer, L.N.E.R. In the latter capacity he was responsible to Sir Nigel Gresley, Chief Mechanical Engineer. Under the organisation introduced in 1941 the department of the Electrical Engineer was separated from that of the Chief Mechanical Engineer, and Mr. Richards, as Chief Electrical Engineer, reported direct to the Chief General Manager. Mr. Richards has been largely responsible for the preparation of electrification schemes relating to the main line from Manchester to Sheffield and certain lines in the Great Eastern suburban area, which schemes were authorised in September, 1937, but on which progress was held up due to the recent war. He visited the U.S.A. in the autumn of 1945 to report on diesel-electric traction. At the end of the 1922-23 session of the Institution of Civil Engineers, Mr. Richards was awarded the Telford Gold Medal for his paper entitled "Twelve Years' Operation of Electric Traction of the L.B.S.C.R." In 1933 he was awarded the George Stephenson Gold Medal and Watt Prize, also by the Institution of Civil Engineers, for his paper on "Primary Considerations Relating to Steam, Electric, and Diesel-Electric Traction."

As from February 2, commercial matters affecting the Somerset & Dorset (Southern & L.M.S.R.) Joint Line, previously dealt with by Mr. G. S. Rider, District Goods & Passenger Manager, Bristol, L.M.S.R., have been transferred to the supervision of Mr. A. Earle Edwards, Divisional Superintendent, Railway Executive, Southern Region, Southampton.

Mr. G. B. Barton, M.I.C.E., who was recently appointed Acting Chief Engineer, London & North Eastern Railway, consequent on the appointment of Mr. J. C. L. Train to the Railway Executive, is retiring from railway service on February 14. A biography of Mr. Barton appeared in our issue of November 21, 1947.

Mr. T. R. Williams has been appointed Chairman of the Mexborough & Swinton Traction Company, in place of Mr. J. S. Wills, resigned from the board.

Mr. J. W. Womar has been elected a Director, and appointed Chairman, of the North Western Road Car Co. Ltd., in the place of Mr. W. T. James, resigned from the board. Mr. T. R. Williams has been appointed Managing Director.

A large gathering of staff of the Western Region, Railway Executive, met at a social function recently at the Great Western Club, Birkenhead, when awards for first aid efficiency were presented by Mr. N. H. Bryant, Divisional Superintendent, Chester, and for the National "Safe Driving" Competition to Birkenhead motor drivers, by Mr. E. J. Smout, Goods Superintendent, Morpeth Dock.

We regret to record the death on January 27 of Mr. William Orr Leitch, M.I.C.E., who retired in 1935 from the positions of General Manager & Chief Engineer, Peiping-Liaoning (Peking-Mukden) Railway.

## Diesel Shunters for London Midland Region

The possibility of obtaining economy in shunting time and costs by the use of diesel locomotives at its five permanent way depots was considered by the L.M.S.R. in 1944. The question had to be deferred, however, owing to conditions arising during and immediately after the war.

As long ago as 1935, an 88-b.h.p. diesel unit supplied by John Fowler & Co. (Leeds) Ltd. went into service at the Beeston creosote depot, but for modern conditions a more powerful unit was required, and in June, 1947, trials were carried out at Castleton depot with a Fowler 137/150-b.h.p. diesel unit.

During these trials heavy loads were hauled satisfactorily on a length of track including a gradient of 1 in 200 and a curve of 88-ft. radius, and as a result, in December, 1947, the L.M.S.R. placed an order for five 0-4-0 diesel shunters of the same type as that tested at Castleton. These are of standard Fowler design weighing 29 tons and made in batches to facilitate production and expedite delivery.

Power is supplied by a Fowler "C" type 4-cylinder 4-stroke heavy-duty vertical diesel engine of 7 in. bore by 9 in. stroke. Starting of the main engine is by means of a twin-cylinder "D" type auxiliary diesel designed to ensure easy starting by hand. At 3 m.p.h. tractive effort is 15,000 lb., and at 10 m.p.h. it is 4,500 lb., while the estimated loads hauled range from 720 tons at 3 m.p.h. to 421 tons at 10 m.p.h. on level track, and from 128 tons at 3 m.p.h. to 24 tons at 10 m.p.h. on a gradient of 1 in 30.

Two of these five diesel locomotives, which are described and illustrated in the February issue of *Diesel Railway Traction*, are for service at the Beeston creosoting depot and Ditton wolmanising depot. At these depots, white sleepers are received and stocked for seasoning, after which they are bored, treated, and chaired in readiness for despatch to various parts of the London Midland Region. A pre-war output of some 1,250,000 sleepers a year was attained at these depots, affording some indication of the quantity of material to be handled during the course of a year.

The remaining three diesel shunters are destined for the Lenton, Northampton, and Castleton depots, where sleepers, crossings, rails and fishplates, etc., are received from the line after relaying and repairs have been carried out. The material is sorted into various categories, and, if possible, reconditioned, scrap material being disposed of by sale. Owing to the heavy nature of the material handled at these depots, loads up to 200 tons will be dealt with at one haul.

## Some Features of Co-ordinated Working in Transport

*Examples of co-operation between companies and with other forms of transport developed before nationalisation*

In a paper read to the Midland Section of the Institute of Transport in Birmingham recently, Mr. S. G. Hearn, Assistant Superintendent of the Line, G.W.R. (now Western Region), discussed some aspects of co-ordination between the branches of a transport undertaking, and also with other undertakings in the transport field.

Many examples of almost perfect co-ordination within a railway organisation could be quoted, said Mr. Hearn. He stressed the importance of discipline of the staff if executive operating officers were to be satisfied that the working instructions would be carried out. He continued to indicate that in spite of the engineering advances made in the present machine age, the human element in transport remained of paramount importance, and the only way of obtaining the maximum benefit from this factor was by harnessing its power to training and discipline. On the thoroughness of the training and the strength of discipline depended the success of the operations.

Mr. Hearn hinted that it might be that such views bore a resemblance to the type of discussion which took place prior to army manoeuvres, but the disciplinary outlook fostered in transport undertakings, which worked with considerable success, was not of the sergeant major, barrack-square variety.

### Self-Discipline in Transport

Nevertheless, the discipline must be such as to ensure that vital operations were performed with precision and alacrity in accordance with issued instructions. Fortunately and proudly it could be stated that in the building up of our big transport concerns, the personnel and stalwarts of the road, be it iron or macadam, were mainly actuated by self-discipline, with the added incentive derived from pride in their job and a respect for an understanding management.

An outstanding illustration so far as staff was concerned, where discipline and efficiency accompanied by hard work was essential to the success of the undertaking, could be found in the shunting operations of a large marshalling yard. A freight train arrived in the reception siding of a gravitation yard in readiness for being propelled over the hump. Immediately there sprang into being a series of operations which had to be planned and then executed by half a dozen shunters, engine drivers and firemen, and hump signalman, in the quickest possible time. This was a good example of co-ordinated working within a small group, linked with the many other phases of freight operation, such as the part played by the control office staff, the inspectors, and adjacent signalmen who were regulating the passage of trains towards the marshalling yard and the departure of others at the scheduled time.

Freight trains, when formed, were the conclusion of many co-ordinated aspects of railway activities, from the collection of the goods at the traders' premises to the loading into wagons and the subsequent marshalling in time to be conveyed by scheduled trains which were shown in the service timetables.

Mr. Hearn then elaborated some of the principles of railway traffic control. Working side by side in the network of control offices would be found the traffic con-

trollers, the relief trainmen controllers, and the engine controllers, all actuated by the common desire to co-ordinate and ensure a smooth flow of traffic.

Special mention should be made of the co-ordination which had taken place between the main-line companies with regard to the through working of trains. For working of through passenger trains from one system to another, the times of the through train had to be scheduled to suit the junction working as well as the intermediate requirements of each company. These arrangements were made at a meeting some time prior to the issue of the public and railway service timetables. Concurrently with this, early joint planning arrangements would be made for the working of restaurant cars, locomotives, and staff.

As regards the general question of coaching stock, close contact was maintained between the companies' headquarters, particularly during the summer season and at other busy periods, in order that balanced services were maintained and empty return haulage kept to a minimum.

Another example had been the working of freight wagons between the companies, either through or to and from the junction marshalling yards designed for this purpose. Apart from the booked services as scheduled and recorded in the working timetables, it was interesting to record the special arrangements, which were developed during the war and had been continued, enabling freight trains to be diverted to alternative routes and junctions as between two or more railway companies.

This was achieved through the medium of an inter-company telephone conference which took place every morning. Special telephone circuits were used, and at 10.30 a.m. four senior operating officers, one from each group, conferred on the current traffic problems. In a similar manner the joint conference was able to deal with any special big traffic movement which required for operational reasons a spreading of the burden.

These arrangements were introduced towards the end of 1941 as a part of the functions of the Operating Committee of the Railway Executive Committee, and had worked with considerable success. They could be quoted as an outstanding example of co-ordinated working in the widest sense.

### Inter-Company Wagon Control

Another important feature of co-ordination working between the four main-line railways had been the Inter-Company Freight Rolling Stock Control, also under the auspices of the Railway Executive Committee. This central wagon control was responsible for ensuring an equitable distribution of empty wagons between the various companies on the basis of proved needs as indicated by statistical data furnished by each company.

There was a common user of most types of freight wagons which eliminated the obligation which applied prior to the 1914-1918 war for each railway receiving a loaded wagon from another company to send it back empty unless the receiving station could load back to the parent line. The common user arrangement had enabled an enormous saving in empty mileage to be achieved, as well as ensuring a reduction in shunting economy in engine power, re-

lief at exchange points, and a greater measure of availability. Apart from the common user of railway-owned wagons, similar advantages had been enjoyed as a result of a Government Order introduced in 1939 which enabled the railway companies to distribute colliery-owned wagons irrespective of ownership.

To pass on to another interesting aspect of transport co-ordination, it was common knowledge that the railways for many years had provided a door-to-door service for freight traffic. Apart from the collection and delivery arrangements associated with the normal town trade, an early extension was introduced during 1907 with what was termed the country lorry service which enabled railborne traffic to be delivered by railway lorries well into country districts and farms. Railhead schemes followed catering for firms desiring to send traffic in bulk by rail for subsequent breaking down and delivery as required up to approximately 30 miles from the station.

### Zonal Scheme

A more recent development was the zonal collection and delivery scheme of railborne smalls traffic, whereby an increased number of one-day transits was afforded, transhipments were reduced, improved wagon user was obtained, and railway operating economies were made possible.

The link between rail and sea had been an important one in view of the ownership by the railways of the largest single group of docks in the country. The handling of general cargo, the transit and shipment of coal, requires carefully planned rail arrangements to ensure efficient dock working and the prompt turn-round of ships. The running of special and other connecting trains to deal with ocean and Continental traffic had been facilitated by the ownership, in many cases, of the passenger ships and tenders by the railway company.

In addition the train ferry put the final touch to complete rail-sea co-ordination.

### Rail and Road Co-ordination

Last, but not least, was the close working which had been established between rail and road interests. After the railway companies secured road powers in 1928, it was realised that the best interests of all parties, and particularly the public, would be served by co-ordination between rail and road companies in preference to unrestricted competition. With this object in view, the railways entered into working arrangements with the road transport combines, and omnibus companies were formed in which the rail and road interests were approximately equal, with the actual working arrangement vested in the road side.

With the railway-associated omnibus companies, standing joint committees, or co-ordination committees, had been established comprising representatives of the rail and road sides, and whose function was the close co-ordination of the two forms of transport to give the public the best possible service. Although the machinery was established originally with omnibus companies in which the railways had a financial interest, considerable progress was made in setting up liaison and co-ordination on similar lines with omnibus companies in which the railways had no financial interest.

An excellent example of co-ordination between rail and road was one introduced by the G.W.R. nearly 20 years ago, when it was decided to combine a rail and road service for passengers travelling between

Cheltenham, Oxford, and London. By a process of what might be termed exploiting railway junctions, passengers were conveyed by road from Cheltenham and intermediate points to Oxford, and then made use of the many services to London, which embraced not only the local trains, but the main-line trains from Hereford and Worcester, and Shrewsbury and Birmingham.

Mr. Hearn dealt in conclusion with the interavailability of tickets between rail and road, and with the transport of parcels by railway-associated bus companies. He hoped he had shown that a close operating link between railways was in the interests of transport as a whole; and that the road and rail branches of transport could be allied to the wellbeing of the nation.

**TOUR OF NORTH-WESTERN CANAL AREA.**—Sir Reginald Hill, Chairman of the Docks & Inland Waterways Executive, with Mr. Robert Davidson, Member of the Executive, made a tour of the North-Western Area canals on February 3 and 4, inspecting docks, bridges, viaducts, etc., and holding discussions with local canal chiefs at the head office of the Leeds & Liverpool Canal in Liverpool.

**EXPORTING LABORATORY EQUIPMENT.**—Latest news of the activities of Scientific Exports (Great Britain) Limited is that agents for the sale of laboratory equipment and scientific instruments have been appointed for a further ten export markets in European and South American countries and in the Far East. In spite of currency and import licensing difficulties the world export figures of SCIEX members for 1947 showed a considerable increase over 1946.

**FRENCH RAILWAYS CLAIM NON-STOP RUN RECORDS.**—A world record for a non-stop run is claimed by the French National Railways Company for diesel-electric railcars. For all types of trains the S.N.C.F. claims a European record. This run is made six times a week in each direction between Paris and Lyons (318 miles) at an average speed of over 62 m.p.h. start to stop. The train leaves Paris at 6.25 p.m., reaching Lyons at 11.32 p.m., and in the reverse direction the train leaves Lyons at 8.30 a.m., and arrives in Paris at 1.37 p.m.

## Permanent Way Institution, London Section, Dinner

The drastic limitations on the number of persons attending luncheons and dinners prevented the Permanent Way Institution from holding its usual annual dinner, but the London Section, wishing to take the earliest possible opportunity of entertaining members of the British Transport Commission and the Railway and London Transport Executives, arranged to hold a separate dinner on January 28, at the Grosvenor Hotel, Victoria Station. The President, Mr. J. C. L. Train, M.C., M.I.C.E., occupied the chair, and the principal guests were Mr. John Benstead, C.B.E., Member of the British Transport Commission, General Sir William Slim, G.B.E., K.C.B., D.S.O., M.C., Member of the Railway Executive, and Mr. A. H. Grainger, Member of the London Transport Executive.

Among others present were:—

Messrs. G. B. Barton, D. R. Bennett, Chairman, Education Committee, Keith Brinsmead, J. I. Campbell, P. Croom-Johnson, A. Dean, C. E. Dunton, Chairman, London Section, A. C. Edrich.

Messrs. B. P. Fletcher, J. A. Kay, D. R. Lamb, H. Ormiston, Honorary Editor, P.W.I., J. N. Peck, A. S. Quartermaine, John Ratter, V. A. M. Robertson, Past President.

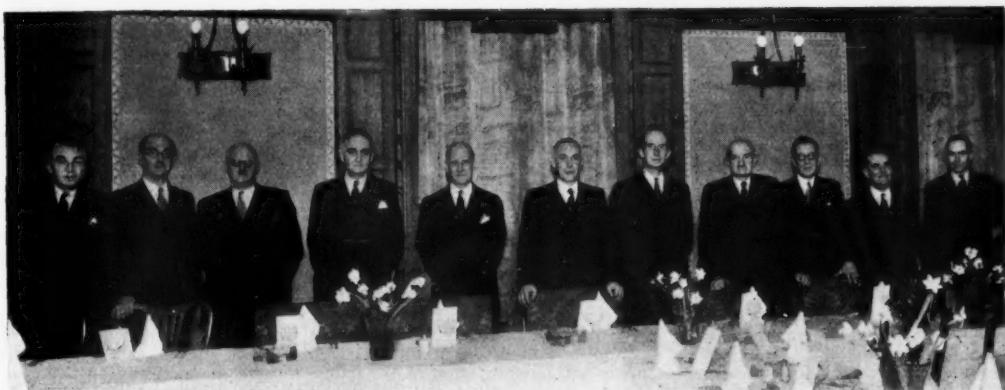
Messrs. N. W. Swinnerton, Gilbert S. Szlumper, J. Taylor Thompson, President Elect, E. H. Tustain, and W. K. Wallace, C.B.E., Past President.

General Sir William Slim proposed the toast of the Permanent Way Institution and the London Section. As the newest recruit to the railway world, he numbered his service only in days. He had, however, been accorded a warm welcome by his new colleagues, and was most gratified to find the same sense of loyalty, comradeship, and pride in the traditions of the service as he had found in the Army. He emphasised the important part played by the permanent way men, whose work was the foundation on which the traffic was carried. It was impossible to overestimate the importance of the railways in our national economy, and our plans for recovery could fail if they did not provide efficient transport for the products of the factories. The Permanent Way Institution had been founded many years ago, and had done magnificent work in bringing many ranks of railwaymen together, to the betterment

of the service. Whatever the difficulties of the present time, he was convinced that the railways would continue to serve the nation efficiently.

Mr. J. C. L. Train (the President), in responding to the toast, paid tribute to the achievements of General Slim during the recent war, and expressed appreciation of his appointment as a Member of the Railway Executive. He endorsed General Slim's remarks regarding the Institution, and looked forward to an even greater extension of its activities. Mr. W. K. Wallace proposed the toast of the Railway and London Transport Executives. British railways had achieved great things in the past, and there was no need to be apprehensive of the future. The railways now had new masters, but the staff remained unchanged. The difficulties of the past eight years had been very great, but signs of a gradual improvement were not wanting. He was confident that better times lay ahead, and that the Railway Executive and the London Transport Executive would not hold themselves aloof, but would maintain the closest possible contact with the staff of all grades.

Mr. John Benstead responded, and emphasised that his relations with the former railway companies had always been of the most friendly character. He had every reason for hoping that his reception would continue to be as cordial. Because their work was not sufficiently spectacular to capture popular imagination, the great debt owed to the permanent way men by the travelling public was not generally realised. They had co-operated magnificently in overcoming the serious difficulties caused by enemy action in the darkest days of the war, and their achievements in peacetime were none the less meritorious. Every branch of the railway service had its own traditions, and the permanent way department had a record that was unsurpassed. He would like to see a portrait of a typical ganger, walking through his length in the early morning, as exemplifying the spirit of the department. Whatever criticism might be levelled at the new organisation of our railways, the Railway Executive and the London Transport Executive had secured the services of some of the most able men in the



A group at the Permanent Way Institution Dinner

Left to Right: Messrs. A. H. Grainger, Member, London Transport Executive; J. Taylor Thompson, Civil Engineer, North Eastern Region; P. Croom-Johnson, Chief Engineer, London Transport Executive; W. K. Wallace, Chief Civil Engineer, London Midland Region; A. S. Quartermaine, Chief Engineer, Western Region; J. Benstead, Member, British Transport Commission; J. C. L. Train, Member, Railway Executive; General Sir William Slim, Member, Railway Executive; Messrs. V. A. M. Robertson, Chief Civil Engineer, Southern Region; Gilbert S. Szlumper, former General Manager, Southern Railway; and C. E. Dunton, Civil Engineer (Development), London Transport Executive

world. He had no fear for the future of the great new venture on which the country had just embarked.

Mr. V. A. M. Robertson said that he esteemed it an honour to be chosen to propose the toast of the Permanent Way Man. The latest figures available showed that in March, 1947, there were nearly 56,000 permanent way men employed on British railways. This great army had shown itself thoroughly dependable in the trying and dangerous conditions of the war years, and the same reliance could be placed on it in peacetime. It was, however, a matter of grave concern that the number of serious accidents to permanent way men remained so high, and he trusted that everything possible would be done to reduce these figures.

Mr. J. Sweeney, Associate Member of the Permanent Way Institution, responded to this toast, and paid a warm tribute to the work of the Institution. With the nationalisation of the railways, the individual's pride in a particular company had gone, but there remained, as always, the deeper sense of pride in serving the community. He stressed the need for close co-operation between all ranks in the railway service, and trusted that the members of the Railway Executive would maintain close contact with the permanent way men, and share their difficulties and triumphs.

The toast of the Guests was proposed by Mr. C. E. Dunton, who expressed the pleasure that it gave the London Section of the Institution to entertain members of the British Transport Commission, the Railway and London Transport Executives, and the ladies. Mr. A. H. Grainger responded, and expressed thanks for the hospitality extended to the guests, and appreciation of the family spirit that had characterised the evening.

After this last toast had been honoured, the President thanked Mr. J. A. R. Turner, A.M.Inst.T., Corresponding Secretary of the London Section of the Institution, for the successful arrangements; and the proceedings, which had been interspersed with musical items and a display of conjuring, concluded with the singing of "Auld Lang Syne."

### Permanent Way Institution Annual Meeting

The annual winter general meeting of the Permanent Way Institution was held at the Institution of Civil Engineers, London, on Saturday, January 31, with the President, Mr. J. C. L. Train, M.C., in the chair. The large attendance included the President-Elect, Mr. J. Taylor Thompson, M.C., and several past presidents.

The report on the activities of the institution showed that the past year had been one of vigorous progress, both at home and overseas. The number of new members enrolled had reached the record total of 867, of whom 567 were elected as associate members. As was to be expected, by far the greatest number of the new entrants came from British railways, but it is gratifying to note that 249 came from Ireland, and 115 from India. During the year, new sections have been formed with headquarters in Dublin and Edinburgh respectively, and their successful foundation has been due, in large measure, to the interest displayed by Mr. T. R. Leonard, Chief Engineer, Irish Transport Company, and Lt.-Colonel J. Scott, M.C., R.E., District Engineer, Railway Executive, Scottish Region, Edinburgh.

Three Journals have been published during 1947, under the direction of the

Editor, Mr. H. Ormiston, who took over the editorial work from Mr. J. Ratter at the beginning of the year. The continued severe restrictions on the supply of paper have made it impossible to increase materially the size of the *Journal*.

The summer convention was held in Scotland, with headquarters in Glasgow, and was attended by members from all parts of the country. The local arrangements were in the hands of a committee of the Glasgow Section, and the Vice-President for Scotland, Mr. W. Paterson, acted as Convenor. The 1948 convention is to be held in Chester, from July 3 to 8.

The financial report revealed that, although the position was sound, expenditure would have to be watched carefully. The office of Assistant Hon. Treasurer had been discontinued, and certain financial and secretarial work, previously carried out by the Honorary Treasurer, had been transferred to the Honorary Secretary, who had been empowered by the Council to engage a paid clerical assistant.

#### ELECTION OF NEW PRESIDENT

Mr. A. S. Quartermaine then proposed, and Mr. V. A. M. Robertson seconded, the election of Mr. J. Taylor Thompson, Civil Engineer, Railway Executive, North Eastern Region, as President for the ensuing year. This election was carried unanimously.

Vice-Presidents were elected as follows: England, Mr. B. Lloyd Davies, J.P.; Scotland, Mr. W. Paterson; Wales, Mr. J. Irving; Ireland, Mr. T. R. Leonard; India, Mr. R. W. R. Rankin; Sudan, Mr. J. S. Pettigrew.

The officers elected were; Secretary, Mr. H. Janes; Treasurer, Mr. F. Lawson; Editor, Mr. H. Ormiston.

Mr. Taylor Thompson then took the chair, and the formal business was followed by an address by Mr. J. C. L. Train on the subject of "The Railways under Nationalisation."

The unification of the British railway system under national ownership was now an accomplished fact. Under the terms of the Transport Act, the British Transport Commission had been set up, and five executives had been appointed. Mr. Train confined his remarks to the Railway Executive, which controlled the main-line railways, with which he was most familiar. This Executive could be likened to a super General Manager, and had been delegated very considerable powers. It had, in fact, to undertake much of the work of the former railway directors, as well as management. Railway staff came directly under the Executive, and were not servants of the Commission.

The make-up and functions of the Executive were described in some detail, and it was emphasised that expert advice would be available on all the problems with which it might be confronted. The country had been divided into six regions, each with its own Chief Regional Officer, who would exercise a considerable measure of autonomy. Staff matters were receiving every consideration, and, formidable as the task might be, the Executive had every hope of maintaining the human contacts, which were so necessary if the railways were to be operated with smoothness and efficiency.

### Formation and First Sessions of the I.L.O. Inland Transport Committee\*

In its origin, the International Labour Organisation was one of the three main organs of the League system which was established in 1919, at the Peace Conference which followed the first world war. The three main organs were the League of Nations, the I.L.O., and the Court of International Justice.

The fundamental feature of the I.L.O. was—and still is—the only international organisation financed by Governments in which representatives of employers and workers, nominated by their Central Governments, have an equal right of vote with the representatives of their Governments.

The I.L.O. exists to secure that certain minimum standards for workers shall obtain throughout the world.

At its 94th session held in London, in January, 1945, the Governing Body decided to set up a number of Industrial Committees. The industries covered were: Coal, inland transport, iron and steel and metal trades, building and civil engineering, petroleum production, and textiles.

The Inland Transport Committee was brought into being in December, 1945, and it was the second Industrial Committee to be created. Coal being the first.

The Governing Body left the Committee to develop its activities in accordance with the needs and circumstances of the industry. This covered all forms of inland transport, including civil aviation, but not maritime questions. To provide direct representation for all these forms of transport would necessitate the appointment of

six representatives of employers and workers, and perhaps an equal number of Government delegates for most, if not all, of the countries to be represented, 26 in all. Obviously, a committee of such dimensions would be impossibly large, so the representatives chosen had to represent more than one branch of transport.

Twenty-six countries were invited to send to London six representatives, two of the Government, two employers, and two workers. Twenty-two countries accepted, and the list comprised: U.S.A., Australia, Belgium, Brazil, Canada, Chile, Denmark, France, Greece, India, Italy, Luxembourg, Mexico, Netherlands, Norway, Peru, Poland, Portugal, Sweden, Switzerland, Turkey, and U.K.

The agenda, which had been circulated some weeks earlier, was a formidable one, consisting, first, of what were termed "the social problems of the industry during the period of transition from war to peace," and, second, the "future international co-operation concerning social policy and its economic foundations in the industry."

Then the committee got down to its job. The first part of the general discussion lasted some hours, and then the Plenary Session agreed to set up sub-committees. There at once was an acute difference of view, one group contending it should be on a *subject* basis and the other group—a *functional* one. In the end three sub-committees were set up, one for railways, one for roads, and the other for "other forms of transport."

It soon was apparent to most of the delegates that the Inland Transport Committee was too small, and it was not constituted to deal adequately with all six

\* Abstract of a paper, "The Inland Transport Committee of the International Labour Organisation," read before the Southern Region Lecture & Debating Society on January 15 by Mr. F. Gilbert, Assistant Secretary (Staff and Establishment), British Transport Commission.

forms of transport, so perforce the stronger elements, rail, road, and docks, predominated at the first session.

The Sub-Committees got busy, and from their debates there presently emerged, after much discussion, a number of resolutions.

The first one dealt broadly with what was termed "Urgent Questions." It was a long resolution, but, in essence, it placed on record the view that the resources of materials, equipment, and manpower needed for the transport industries, particularly in countries devastated by the war, should be fully utilised through methods of international co-operation, carried out in the same spirit which prevailed among the United Nations during the war years.

The second resolution expressed agreed views on Industrial Relations, notably that employers' and workers' organisations should join in the provision of voluntary machinery of negotiation.

The Session came to an end late on the afternoon of December 20, 1945. The Committee had sat solidly for seven days, and if I were asked to say if I thought it had all been worth while, I would unhesitatingly reply "Yes"—if only for the personal contacts made and the great measure of understanding reached, especially among the members of the Employers' Group.

When the Governing Body met at Montreal in September, 1946, a decision was reached to summon the Inland Transport Committee to a Second Session, to begin in Geneva on May 7, 1947.

For the Second Session of the Inland Transport Committee, 147 representatives of 22 countries were present—117 members and 30 advisers.

Nine Plenary Sessions were held, and in these plenary meetings were some useful discussions on the report prepared by the office on the results of the First Session.

It was especially interesting to hear the progress made towards the rehabilitation of the transport systems of the European countries.

Although much remained to be done to restore the ravages of war, especially in the matter of rolling stock, it was obvious that great strides forward had been made, and the Committee noted this with evident satisfaction.

At the first Plenary Session, the Committee decided to set up Sub-Committees to discuss Subjects. This was a difference from the 1945 Session, when Functional Sub-Committees were established.

We came to a great measure of agreement, and it resulted at the end of the session in the various resolutions being passed without any dissent—all were, in fact, adopted unanimously—which I am told was something hitherto unknown at Geneva—so often the scene of bitter discussion and disillusion!

To come now to the results of the Second Session. First and foremost I put the valuable exchange of views and opinions. The I.T. Committee is indeed a most useful medium for establishing contact with transport interests in other countries, and particularly those within the British Commonwealth. It provides, too, opportunities for learning something of their problems, and the solutions they have evolved.

The resolutions, too, were of importance, notably those on industrial relations, employment, and statistics.

During the Session there were certain attempts to bring economic subjects into the discussion, but the employers' group were unanimous in resisting these attempts,

and after many speeches, including some heated ones, the employers' group suggested that this was an issue on which the Governing Body should be asked to pronounce, and so it is hoped that will be the end of it. The I.L.O., as one of the specialised agencies of the United Nations, is entrusted with the task of dealing with social problems, but *not with economic ones*, and it is, in fact, well equipped to deal with social problems. Yet the labour and economic spheres do often overlap; still, it does seem to me that if the Industrial Committees, of which the Inland Transport Committee is only one, are to succeed in their work they must avoid encroaching on the economic field.

In the final hour of the Second Session, the United States gave the Committee a warm invitation to hold its Third Session in America, but I understand this will not be held before 1949.

### Questions in Parliament

#### **Unserviceable Locomotives and Wagons**

Mr. Thomas Reid (Swindon—Lab.) on January 26 asked the Minister of Transport how many unserviceable locomotives and wagons there had been in Britain at the end of the war; how many there were now; and how many new locomotives and wagons had been made since the end of the war for use in Britain.

Mr. Alfred Barnes (Minister of Transport) stated in a written answer: I am making inquiries and will circulate a statement as soon as possible.

#### **Repair of Railway Wagons**

Mr. W. McAdam (Salford North—Lab.) on January 26 asked the Minister of Transport if he would state the total number of wagons of all types that had been repaired in Barassie workshops during the October to December period; and the number stored in various sidings in the Kilmarnock and Polmadie control areas waiting to undergo repairs in those works at December 31, 1947.

Mr. Alfred Barnes stated in a written answer: 4,362 and 470, respectively.

#### **Locomotives Awaiting Repairs**

Mr. W. McAdam (Salford North—Lab.) on January 26 asked the Minister of Transport what was the number of locomotives of the St. Rollox, Polmadie, and Corkerhill locomotive depots in Scotland not in traffic, either because of temporary or major repairs being required, at December 31, 1947.

Mr. Alfred Barnes in a written answer stated: The numbers at these depots under and awaiting temporary and major repairs at December 31, 1947, were 10, 52 and 23, respectively.

#### **Road Transport Executive**

Mr. Ernest Davies (Enfield—Lab.) on February 2 asked the Minister of Transport the salaries to be paid to the Chairman, full-time and part-time members of the Roads Executive, respectively; and the duration of their appointments.

Mr. Alfred Barnes: The authorised salaries for the Chairman, full-time members and part-time members of the Road Transport Executive are £5,000, £3,500 and £750 per annum, respectively. The present term of office of the Chairman and the other full-time members will expire on September 30, 1952, and of the part-time members on September 30, 1950.

Mr. Davies: Will the Minister say if any expenses are payable to these gentlemen in addition to their salaries?

Mr. Barnes: The procedure generally is to agree on an aggregate sum for expenses

to cover all the members of any particular Executive.

Mr. E. H. Keeling (Twickenham—C.): Is there no saving clause in the agreement to say that the appointment shall come to an end before 1952 if the Roads Executive comes to an end before 1952?

Lt.-Colonel W. H. Bromley-Davenport (Knutsford—C.): How much will those expenses be?

Mr. Barnes: I cannot say at the moment. They are to be negotiated with the various Executives.

Captain H. F. C. Crookshank (Gainsborough—C.): Negotiated?

#### **New Year Messages to Railway Staffs**

Wing-Commander N. J. Hulbert (Stockport—C.) on January 26 asked the Minister of Transport if he would state the total cost of advertising in the national Press a New Year message from himself and the Chairman of the Railway Commission; and why that expenditure had been incurred.

Mr. Alfred Barnes stated in a written answer: This space had been already reserved by the railway companies for general advertising purposes under contract entered into before January 1 and it was considered appropriate to utilise the space for the publication of a message to the whole staff of the railways on the occasion of such important changes. The proportionate value under contract of the space used is estimated at £1,500.

#### **Christmas Railway Services**

Lt.-Colonel D. Heathcote Amory (Tiverton—C.) on January 22 asked the Minister of Transport whether he was aware that certain districts in Devon had been without train services for two days during Christmas, and, in those areas where there was no bus service, that had prevented families getting together for Christmas; and if he would ensure that, in future, no such country district was without a train service for more than one day during the Christmas holiday period.

Mr. Alfred Barnes stated in a written answer: Traffic on a few branch lines in Devon had been so small on previous Christmas and Boxing Days that the railway companies decided that in view of the need to conserve fuel there was no justification for providing services. Christmas-tide services next year will be a matter for the British Transport Commission, and I have drawn its attention to Colonel Amory's question.

#### **Scottish Regional Railway Headquarters**

Sir William Darling (South Edinburgh—C.) on January 21 asked the Minister of Transport on what grounds the decision had been made to transfer the administrative headquarters of the railway regional control office for Scotland from the capital to Glasgow.

Mr. Alfred Barnes, in a written answer, stated: Before January 1, 1948, the area operational headquarters of the L.N.E.R. were in Edinburgh, but the L.M.S.R. Scottish administrative headquarters and the office of the L.N.E.R. Goods Manager for Scotland were in Glasgow. As a result, 1,904 of the headquarters staff of the two companies were stationed in the Glasgow area and 605 in Edinburgh. I am informed by the British Transport Commission that the selection of Glasgow as the administrative headquarters of the Scottish Region, which conforms to existing arrangements, will also, in their view, be to the convenience of industry and commerce. It is the intention that certain departmental work shall remain in Edinburgh.

February 6, 1948

## Notes and News

**Mansion House Association on Transport.**—Mr. Alfred Barnes, M.P., Minister of Transport, will be the principal guest at a buffet luncheon to be held by the Mansion House Association on Transport at the Connaught Rooms, London, W.C.2, on Friday, March 12, preceding the annual general meeting of the Association.

**Retail Prices Index.**—The Ministry of Labour states that at December 16 the official index figure, which measures changes in the average level of retail prices compared with the level at June 17, 1947 (taken as 100), was 104. The corresponding figure at November 18 was 103.

**Sale of Transport Services Road Haulage Interests.**—Transport Services Limited announces that a first cash payment of £2,000,000 has been received on account of the sale of its road haulage interests to the British Transport Commission. The payment of further monies awaits valuations of assets and agreement of figures.

**Summer Time in Great Britain.**—The Home Secretary, Mr. Chuter Ede, announced in the House of Commons on January 29 that the proposed dates for the observance of Summer Time this year were from March 14 to October 31. A draft of the Order in Council necessary under the Summer Time Act, 1947, would be laid before Parliament without delay.

**Valuation of B. & C.D.R. Assets.**—A claim that the assets of the Belfast & County Down Railway cost £1,750,000 at pre-war prices and were now worth £5,000,000, was made by Mr. Maurice L. McCracken, Honorary Secretary of the B. & C.D.R. Shareholders' Protection Association, in a statement issued after the announcement that the company had agreed to sell the undertaking to the Northern Ireland Road Transport Board for £485,989 9s. 5d. (see our January 23 issue). After outlining the various assets of the company at present-day costs, the statement continued: "The Stock Exchange valuation of the shares has no bearing on the saleable value of the company's assets. An operation on the Stock Exchange is mostly concerned with purchasing a right to collect a dividend. The prin-

cipal factor which alters the Stock Exchange value is met by the answer to the question: 'What is the chance of a large, small, or no dividend in the immediate future?'"

**Lantern Lectures on Great Britain.**—A series of 15 printed lectures dealing with the history and beauties of England and Scotland is available from the Advertising Manager, Eastern & North-Eastern Regions, at 26, Pancras Road, London, N.W.1. Each lecture is accompanied by an average of 91 lantern slides.

**Stanmore Station Improvements.**—London Transport is carrying out works to give the passenger greater convenience at Stanmore Station. The forecourt of the station is being widened and made up, so that northbound buses can draw in, and pick up passengers at the station entrance. The forecourt will be furnished in February, and a month later a modern glazed-canopy running the whole 96 ft. length of the station frontage, will be finished, so providing shelter for travellers awaiting buses.

**Resumption of Swiss Tourist Traffic.**—A statement from the Treasury on February 2 announced that agreement had been reached with a Swiss representative regarding the balance of payments between Switzerland and the sterling area, and the prospects of trade in the coming year. In view of these arrangements the Government has agreed to make some provision in the programme of payments to enable tourist traffic to be resumed from May 1. The total amount available for this purpose will be regulated according to the balance of payments. Intending tourists are asked to await a further announcement before making any arrangements to travel to Switzerland.

**Iraqi Railway Engineers in Great Britain.**—Two Iraqi engineers, both employed on the repair of railway carriages and wagons by the Iraqi State Railways, have arrived in Great Britain under the British Council Short-Term Bursary scheme to spend three months studying British methods. They are Sayid Mohamed Ali Hussain, Wagon Shop Foreman, and Sayid Younis Mohammed, Carriage Shop Foreman. They have commenced a

### Sir Cyril Hurcomb at Derby



Sir Cyril Hurcomb, Chairman, British Transport Commission, inspecting train control equipment at Derby

three months course at the works of the Birmingham Carriage & Wagon Co. Ltd., where carriages for the Iraqi State Railways are at present being built. British Council Short-Term Bursaries are being awarded to industrial and professional workers from overseas to enable them to come to Britain to gain experience of British technique and machinery, and to acquire a general picture of the British way of life.

**No Belfast & County Down Dividend for 1947.**—The directors of the Belfast & County Down Railway have announced that the financial position for the year ended December 31, 1947, did not permit the payment of any dividend on the preference or ordinary stocks of the company. A similar statement was made a year ago in respect of 1946.

**Transport Unification in East Africa.**—Sir Reginald Robins, General Manager of the Kenya & Uganda Railways & Harbours, arrived in Dar-es-Salaam on January 27 to discuss proposals for the amalgamation of railways in Kenya, Uganda, and Tanganyika with the Tanganyika Railways Advisory Council. As reported in our January 9 issue, Sir Reginald Robins has been appointed Member for Transport in an executive organisation which is now being set up under the newly-formed East Africa Central Assembly.

**Nationalisation of Industries in Bulgaria.**—Practically the whole of Bulgarian industry was brought under State control and ownership by an Act passed by the Bulgarian Grand National Assembly on December 24. According to Article 4 of the Act, it does not affect industrial enterprises operating in Bulgaria and belonging to foreign States, as they fall under the provisions of Article 24 of the Peace Treaty with Bulgaria, February 10, 1947. Compensation to owners of nationalised industries has been made in the shape of interest-bearing State bonds.

**British Railways Refreshment Room Display.**—It is estimated that 25,000 people visited the British Railways stand at the Hotel, Restaurant & Catering Exhibition at Olympia, London. Food displays were arranged in rotation by the Kings Cross, Marylebone, and Liverpool Street staffs, and were typical in their variety of the refreshments now available at these and many other stations. Included among the exhibits was an attractive service counter and a new type of refrigerator showcase for keeping sandwiches and snacks in good condition. Drawings and photographs of post-war schemes completed or in hand were also displayed. Mr. E. K. Portman-Dixon, Acting Executive Officer for Refreshment Rooms & Dining Cars & Hotel Liaison, Railway Executive, was responsible for the stand.

**Refresher Courses for Railway Boiler-men.**—Continuing the series of fuel efficiency courses organised during recent years in conjunction with the Ministry of Fuel & Power, British Railways (London Midland Region) is arranging a number of one-day refresher courses on similar lines for boilermen and stokers. The first three courses were held at Leeds, Birmingham, and London during January, running for four or five successive days at each centre, and accommodating 15 men each day. The purpose of the courses, for which instructional film showings, illustrated lectures, and stoking demonstrations by Ministry of Fuel & Power experts are being arranged, is to explain to boilermen the elementary principles of combustion and the importance of air control on fur-

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## OFFICIAL NOTICES

*None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he or she is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.*

**PNEUMATIC HOSE.** 1-in. bore, 5-ply rubber lined. With bursting pressure of 600 lbs. p.s.i., in 40-ft. lengths. Complete with gunmetal connections. New and unused.—COX & DANKS LIMITED, Plant Department, Oldbury, Birmingham. Phone: Broadwell 2011.

**OIL FILTERS.** by AutoKlean Strainers. 1½-in. Flanged inlet and outlet. Cast-iron body approx. 18 in. long, fitted internally with washer-type hand-operated filter unit. Approx. weight 37 lbs. These are new and unused.—COX & DANKS LIMITED, Plant Department, Oldbury, Birmingham. Phone: Broadwell 2011.

**PLASTICS IN RAILWAY ENGINEERING.** By T. Lovatt Williams and D. Warburton Brown. 1s. By post 1s. 2d.

**SECTIONED PERSPECTIVE VIEW OF LOCOMOTIVE FRONT END.** A notable drawing of L.M.S.R. class "7P" 4-6-2 locomotive of the latest type. Reprinted from *The Railway Gazette*, June 15, 1945. Price 2s. 6d. Post free 2s. 8d.

**THE RAILWAY HANDBOOK.** provides the railway student with a collection of useful statistics and information relating to the railways of Great Britain and Ireland. In addition, in matters of international interest, such as speed and electrification progress, the book extends its scope to cover the whole world in order to present a complete picture of these increasingly-important developments. 120 pp. Dy. 8vo. Paper covers. Price 5s. By post 5s. 3d.

**THE WORK OF THE RAILWAY CLEARING HOUSE.** 1842-1942. An account of the development and extent of the activities of this famous British railway institution. Paper, 9½ in. by 6 in. 24 pp. Illustrations. 2s. 6d. By post 2s. 8d.

**LONMOOR MILITARY RAILWAY.** Transportation Training Centre of the Corps of Royal Engineers. Reprint of an article published in *The Railway Gazette*, July 5, 1946. 22 pp. 9 in. by 6 in. Illustrated. In paper cover, 2s. By post 2s. 3d.

**TRAFFIC CONTROL ON THE L.M.S.R.** Coordination of operating arrangements as a result of grouping—Central, Divisional, and District Control. Outline of unified methods adopted—Organisation and working—Control telephone circuits—Daily telephonic conferences. Paper, 12 in. by 9 in. 20 pp. Illustrated. 5s. By post 5s. 2d.

nace efficiency. Film-strips have been prepared to show the different processes of combustion. Other aspects studied are the adverse effect of air leakages around the fire doors, and the desirability of a level fire of correct thickness. Both lectures and firing demonstrations are followed by discussions in which the students are encouraged to ask questions and state their particular problems.

**Effect of Franc on Fares to Continent.**—Fares to France, and to destinations via France, have been reduced from February 1 following the devaluation of the French franc. As examples, the first class return fare from London to Paris by the "Golden Arrow" (including Pullman supplements) is reduced by £2 19s. 6d. to £13 10s.; and the third class London-Paris return fare, via Newhaven-Dieppe, is reduced by 2s. 6d. to £5 9s.

**Soo Line Voting Trust Terminated.**—At a recent meeting in Minneapolis, it was decided to terminate the voting trust which, since the reorganisation of the Minneapolis, St. Paul & Sault Ste. Marie Railroad Company, has held of the company's stock. Although the terms of the trust would have continued its life until December 31, 1950, its termination was agreed to unanimously. The effect will be to give the stockholders the voting right in the company instead of the voting trustees.

**New Locomotives from Crewe.**—A visit to Crewe Works, London Midland Region, was made by a party of Press representatives on January 30, to inspect a new 2-6-0 locomotive, and a number of experimental types with roller bearings and Caprotti valve gear. It is hoped to make a more detailed reference to these locomotives in a forthcoming issue.

**Thomas Tilling Limited.**—The report for the year ended December 31, 1947, shows that the fixed assets of the company are valued at £7,515,909, while current assets total £8,547,948. During the year the net profit, after providing for taxation and other charges, was £532,318, to which was added the balance brought in of £324,676.

A preference dividend and an interim ordinary dividend of 5 per cent., which have been paid already, absorbed £122,375. The directors now recommend payment on March 15 of a final dividend of 5 per cent. on the ordinary stock, making 10 per cent. for the year. After this dividend has been met, and an allocation of £250,000 made to general reserve, the balance to carry forward will be £371,319. Income on investments in subsidiary companies and elsewhere during 1947 amounted to £878,088, as compared with £738,835 in the preceding year. The net profit figure of £532,318 is arrived at after providing the full charge for taxation based on the profits of the year without taking credit for income tax recoverable from dividends payable. The comparable figure for the previous year would have been £421,372.

**Foreign Railways Investment Trust Limited.**—At the meeting of the trust on January 27, the Chairman, Mr. H. C. Drayton, said that their ordinary railway investments had been valued at approximately £786,000. Their present capital consisted of £1,500,000 in preference shares, with gross arrears totalling £1,275,000 and £1,500,000 in ordinary stock. Three courses were possible for the future, namely, to wind up the company, to reorganise, or to carry on as today. If

arrangements have been made between the Railway Executive and the Air Ministry whereby special weather forecasts from Air Ministry stations in England and Scotland will be available for railway use. The meteorological station concerned are: Scotland, Pitreavie and Prestwick; and England, Shawbury (Shropshire), Gloucester, Dunstable, Bawtry, Uxbridge, South Creney (Gloucestershire), Plymouth, Upavon (Wiltshire), and Croydon. Local meteorological officers will be available for consultation at any time, day or night. Special warnings of snow, thick fog (visibility under 220 yd.), frost, and gales will be issued from local offices. The service will operate in the first instance for an experimental period of three months.

**British Railways (Southern Region) Lecture & Debating Society.**—A series of short papers entitled "Portsmouth Harbour Station—War Damage and Reconstruction," will be delivered to the Society at 5.45 p.m. on February 19, at the Chapter House, London Bridge. The

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General Introduction will be by Mr. A. Dean, Chief Officer Engineering (Works), Railway Executive, who will be followed by Mr. B. Cooper-Poole, Assistant Divisional Engineer, Central Division, Southern Region, speaking on the enemy action which gave rise to the heavy damage, and the general scope of the damage which took place, and the immediate measures of a temporary nature thereafter. Mr. R. R. Foxlee, Assistant New Works Engineer, will cover the development of the scheme for permanent reconstruction, and Mr. E. Reed, Senior Resident Engineer (Bridges, etc.) the reconstruction work embodying new piles, strengthening of existing piles, and the erection of the steelwork and superstructure. The remodelling of the permanent way, the site, setting out, manufacture and laying in, will be dealt with by Mr. J. Todd, Permanent Way Assistant's Office, and Mr. D. Slater, Works Manager, Redbridge Works; and the reconstruction of the signal box, together with new signal installation, by Mr. C. F. Challis, of the Signal Engineer's Department.

### Forthcoming Meetings

February 11 (Wed.).—The Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, at 5.30 p.m. "Some Aspects of Carriage Bogie Design," by Mr. Jury Koffman, Associate Member.

February 14 (Sat.).—The Permanent Way Institution (Manchester & Liverpool Section), in the Dining Room, Hunt's Bank, Manchester, at 2.30 p.m. "Track Renewals with Pre-fabricated Track and Crane," by Mr. W. Cliffe.

### Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ended	Traffic for week		No. of Week	Aggregate traffics to date		Shares or Stock.	Prices			
			Total this year	Incr. or dec. compared with 1945/46		Totals			Increase or decrease	Highest 1947	Lowest 1947	
						1947/8	1946/7				Feb. 3 1948	
South & Central America												
Antofagasta	834	25.1.48	£ 45,880	+ 12,540	4	£ 190,840	£ 142,080	+ 48,760	Ord. Stk.	17	9½ 11	
Arg. N.E.	753	24.1.48	ps. 406,500	+ ps. 86,800	30	ps. 1,036,600	ps. 9,464,200	+ ps. 901,800	6 p.c. Deb.	21	10 11	
Bolivar	174	Dec., 1947	898,426	- \$2,866	52	\$1,260,009	\$1,303,976	- \$43,967	Bonds	25	16½ 27½	
Brazil	—	—	—	—	—	—	—	—	44½	26	44	
B.A. Pacific	2,771	24.1.48	ps. 3,150,000	+ ps. 614,000	30	ps. 78,341,000	ps. 66,742,000	+ ps. 11,599,000	Ord. Stk.	11½	6 10½	
B.A.G.S.	5,080	24.1.48	ps. 4,967,000	+ ps. 6,000	30	ps. 107,728,000	ps. 103,548,000	+ ps. 4,180,000	Ord. Stk.	19	12 17	
B.A. Western	1,924	24.1.48	ps. 1,580,000	- ps. 111,000	30	ps. 42,816,000	ps. 37,913,000	+ ps. 4,903,000	Ord. Stk.	28½	14½ 22	
Cent. Argentine Do.	3,700	24.1.48	ps. 4,003,200	+ ps. 502,050	30	ps. 102,306,451	ps. 95,145,657	+ ps. 7,160,794	..	21	9 17½	
Cent. Uruguay	970	24.1.48	39,943	+ 3,426	30	991,615	1,092,518	- 100,903	Ord. Stk.	30½	9½ 22	
Costa Rica	262	Dec., 1947	35,372	+ 8,090	26	197,719	160,025	+ 37,694	Stk.	13	8½ 8	
Dorada	70	Dec., 1947	25,600	- 6,400	52	350,800	369,575	- 18,775	I.M. Deb.	108	100½ 106½	
Encre Rios	808	24.1.48	ps. 527,100	+ ps. 75,200	30	ps. 13,440,700	ps. 12,878,000	+ ps. 562,700	Ord. Stk.	11	6½ 11	
G.W. of Brazil	1,030	24.1.48	44,200	+ 3,600	4	142,800	143,500	- 700	Ord. Stk.	102/6	19½ 3½	
Inter. Ctl. Amer.	794	Dec., 1947	\$1,123,000	+ \$204,529	52	\$13,076,437	\$10,462,386	+ \$2,614,051	—	88½	65 84	
La Guairá	22½	Dec., 1947	889,174	- \$17,932	52	\$1,254,425	\$1,393,471	- \$139,046	S.p.c. Deb.	22	3½ 14	
Leopoldina	1,918	24.1.48	59,201	- 5,777	4	199,002	221,610	- 22,608	Ord. Stk.	22	8 ½	
Mexican	483	31.5.47	ps. 1,464,000	+ ps. 459,100	22	ps. 7,706,200	ps. 13,441,600	+ ps. 5,220,000	Ord. Stk.	6½	—	
Midland Uruguay	319	Dec., 1947	19,608	+ 4,088	26	105,663	112,280	- 6,617	—	—	—	
Nitrate	382	31.1.48	9,417	- 374	4	23,103	17,562	+ 5,541	Ord. Sh.	86/3	62.6 68½	
N.W. of Uruguay	113	Dec., 1947	3,686	- 2,085	26	29,982	34,050	- 4,068	—	—	—	
Paraguay Cent.	274	23.1.48	ps. 67,092	+ ps. 2,719	30	ps. 1,922,455	ps. 1,893,560	+ ps. 28,895	P.R.L. Stk.	60½	44½ 50½	
Peru Corp.	1,059	Dec., 1947	184,411	+ 37,258	26	1,026,119	920,202	+ 105,917	Pref. Stk.	13	7 8	
Salvador	100	30.11.47	c156,000	+ c66,000	22	c471,600	c412,000	+ c59,600	—	—	—	
San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	189½	129½ 167½	
Tatral	156	Dec., 1947	8,390	+ 4,710	26	40,740	29,410	+ 11,330	Ord. Sh.	24½	17½ 18½	
United of Havana	1,301	24.1.48	87,505	+ 30,570	30	1,781,844	1,489,437	+ 292,407	Ord. Stk.	4½	1½ 1½	
Uruguay Northern	73	Dec., 1947	1,098	- 227	26	6,622	8,031	- 1,409	—	—	—	
Canada	Canadian National	23,535	Nov., 1947	9,373,250	+ 91,250	48	99,924,750	91,193,750	+ 8,731,000	—	—	—
Canadian Pacific	17,037	Dec., 1947	7,151,250	+ 914,250	52	79,646,500	73,124,000	+ 6,522,500	Ord. Stk.	18½	16 19½	
Various	Barsi Light	202	Dec., 1947	20,962	+ 52	39	226,312	205,680	+ 20,632	Ord. Stk.	114½	100½ 103½
Beira	204	Oct., 1947	116,016	+ 21,525	4	116,016	90,491	+ 21,525	—	6½	6 6	
Egyptian Delta	607	31.12.47	22,922	+ 449	39	446,809	509,056	- 62,247	Pref. Sh.	63½	69 82½	
Manila	—	—	—	—	—	—	—	—	B. Deb.	63½	75 65	
Mid. of W. Australia	277	Nov., 1947	19,736	+ 8,823	22	108,059	80,568	+ 27,491	Inc. Deb.	—	—	
Nigeria	1,900	Nov., 1947	506,530	+ 44,927	35	2,930,730	3,076,711	- 145,981	—	—	—	
Rhodesia	2,445	Sept., 1947	643,980	+ 102,833	52	6,787,603	6,174,664	+ 612,939	—	—	—	
South African	13,323	3.1.48	1,107,502	+ 13,577	40	50,067,180	45,638,756	+ 4,428,424	—	—	—	
Victoria	4,774	Aug., 1947	1,177,321	- 11,568	9	—	—	—	—	—	—	

† Receipts are calculated at 1s. 6d. to the rupee

### Railway Stock Market

Although proceeding cautiously, stock markets have been firmer in most sections, the absence of a French political crisis, and of any serious Indian repercussions after the assassination of Mr. Gandhi, being favourable factors. British Funds, however, were lower on balance, partly because of fears that the Australian conversion operation may meet with only limited success. On the other hand, despite news of a further £26½ million sale of gold to the U.S., or £1½ million more than in December, the general belief is that the dollar gap is narrowing slightly. As was to be expected, 3 per cent. Transport stock has moved closely with the trend of gilt-edged stocks and failed to hold an earlier improvement. At 96½, there is a not unattractive yield, but it cannot be expected the price will reach par unless there is a sustained rally in British Funds.

Argentine rails lost ground owing to conflicting reports still coming to hand regarding the position and prospects of the trade and financial talks. Nevertheless, there has been only moderate selling, because it is realised that when these talks are settled, Argentina is likely to ratify the railway agreement. When this is done, it can be expected that the railway stocks will be quickly marked up to around their pay-out levels. Buenos Ayres Great Southern ordinary is now 17, or three points below pay-out, while the 5 per cent. preference, at 63½, is no less than 11½ points below; and generally 4 per cent. debentures of leading companies are 10 points discount to their pay-out levels.

Central Uruguay stocks have strengthened. Antofagasta ordinary and preference were 11 and 58½ respectively,

but the best feature has been a good rise to 167 in San Paulo on hopes that news may be forthcoming as to when the long-awaited purchase money can be expected. Many market men remain of the opinion that if there is a reasonable payment for non-railway assets in Brazil, San Paulo ordinary stock may be worth £200. Speculative activity in Leopoldina stocks has been less in evidence, the ordinary easing to 13½ and the preference stock to 36½, while the 4 per cent. debentures were 61½. In other directions, Mexican Railway 6 per cent. debentures eased to 78½. United of Havana 1906 debentures were 15. Elsewhere, French railway sterling bonds again receded on the franc devaluation, Midi being 88½ and Nord 104. Canadian Pacifics (19½) reflected the upward trend in dollar stocks. Metropolitan Assented changed hands up to 58. Beira Railway bearer shares were 57s. 3d.

Iron and steels have been less buoyant, although in many instances prices were slightly higher on balance, buyers again being attracted by the good yields and by the possibility that dividend payments this year may show a number of increases. Shares of locomotive building and engineering companies have again been more active. Beyer Peacock changed hands up to 26s. 6d., North British Locomotive were 28s. and Vulcan Foundry 32s. 9d.

There was again a good deal of activity in bus and road transport shares. Transport Services 5s. shares have been firm around 32s. 9d. following the company's statement that £2,000,000 has been received on account from the British Transport Commission, and Thomas Tilling were active up to 95s. on the full results and Chairman's statement.